

SUSTAINABLE DEVELOPMENT—EAST ASIA AND PACIFIC REGION
DISCUSSION PAPERS



STRATEGIC ENVIRONMENTAL ASSESSMENT

IN

EAST AND SOUTHEAST ASIA

**A Progress Review and Comparison of Country
Systems and Cases**

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The World Bank

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Environmental and natural resources management issues are an integral part of the development challenge in the East Asia and Pacific (EAP) Region. The World Bank's Environment Strategy in the East Asia and Pacific Region has provided the conceptual framework for setting priorities, strengthening the policy and institutional frameworks for sustainable development, and addressing key environmental and social development challenges through projects, programs, policy dialogue, non-lending services, and partnerships. This study provides a forum for discussions on good practices and policy issues within the development community and with client countries.

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Acronyms and Abbreviations

ADB	Asian Development Bank
Bappenas	National Development Plan Agency, Indonesia
DONRE	Department of Natural Resources and Environment
CIA	Cumulative Impact Analysis
CIDA	Canadian International Development Agency
Danida	Danish International Development Agency
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPU	The Economic Planning Unit in the Prime Minister's Office, Malaysia
GIS	Geographic Information System
GMS	Greater Mekong Subregion
GMS EOC	ADB Environmental Operations Center for the Greater Mekong Subregion
GTA	Guizhou Tourism Administration
GTZ	German Technical Cooperation
GWDS	Great Western Development Strategy, People's Republic of China
IUCN	International Union for Conservation of Nature
MARD	Ministry of Agriculture and Rural Development
MEP	Ministry of Environmental Protection
MOE	Ministry of Environment Affairs
MOIT	Ministry of Industry and Trade
MONRE	Ministry of Natural Resources and Environment
MOPW	Ministry of Public Works
MTSP	Manila Third Sewerage Project
NGO	Non-governmental organization
NDA	National Development Agency, Philippines
NT2	Nam Theun II Hydropower Development
Lao PDR	Lao People's Democratic Republic
ONEP	Office of Natural Resources and Environmental Policy and Planning at the Ministry of Natural Resources and Environment, Thailand
PCSSF	Papuan Civil Society Strengthening Foundation
P-EIA Report	Plan Environmental Impact Assessment Report prepared in accordance with the requirements of Articles 8-14 of the EIA Law of the People's Republic of China. This document is sometimes referred to as Plan Environmental Impact Statement (P-EIS).
PPC	Provincial People's Committee
PPP	policies, plans, and/or programs
PRC	People's Republic of China
REA	Regional Environmental Assessment
SDC	Swiss Agency for Development and Cooperation
SEA	Strategic Environmental Assessment
SEDP	Socio-Economic Development Plan
SEPA	State Environmental Protection Agency
SEMLA	Vietnam-Sweden program on 'Strengthening Environmental Management and

	Public Administration'
SIA	Strategic Impact Assessment
Sida	Swedish International Development Cooperation Agency
STEa	Science Technology and Environment Agency
SPP	Strategy, planning (a specific Vietnamese term used for a long-term plan without detailed spatial dimension) or plan (i.e. usually a shorter-term plan that includes clear spatial maps) that is subject to SEA in accordance with the requirements of the Article 14 of the 2005 Law on Environmental Protection of the Socialist Republic of Viet Nam
TDP	Tourism Development Plan, Fiji
WREA	Water Resources and Environment Administration
WWF	World Wide Fund for Nature

Foreword

For three decades, the East and Southeast Asia region has continued to experience rapid economic growth. This has presented a range of development opportunities and challenges, particularly in the resource and environment spheres. In response, the countries of the region have undertaken a series of reforms designed to improve development policy, plans and programs, including measures to mainstream the environment across all major sectors. Despite these efforts, many countries still lack the capacity to fully assess the environmental impacts and sustainability implications of their development projects and strategies.

At the project level, environmental impact assessment (EIA) systems are well established and widely applied across the region, and a sound basis of knowledge and experience has been accumulated. At the level of regional and sectoral development plans, the development of strategic environmental assessment (SEA) systems continues to remain at a relatively early stage in the region with fewer examples of fully operational processes or effective practice. However, within the region as well as internationally, there is increasing recognition of the value of applying SEA in order to integrate environmental issues and considerations into all facets of proposed development plans and strategies.

In partnership with countries, the World Bank has supported the introduction and use of SEA in the East and Southeast Asia region through its analytical and technical assistance and lending activities. SEA is considered to be a particularly valuable tool for addressing Bank plans and programs that may have potential cumulative, regional- or sector-wide impacts on the environment. Under the Bank's regional Environment Strategy, SEA is identified as part of the larger family of strategic approaches and tools that are needed to mainstream the environment and enhance cross-sectoral coordination.

This report provides an update on progress with SEA in developing countries in East and Southeast Asia. It may be read as a companion volume to an earlier, baseline review titled "Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements: Practices and Lessons Learned in East and Southeast Asia" (World Bank 2006). This update includes a comparative overview of the development and status of SEA systems in seven developing countries and a series of SEA cases that illustrate the state of practice in the region.

This study represents a further addition to our understanding of the SEA systems and their implementation in the East Asia and Pacific Region. It affords a number of insights into strengths and weaknesses of current practice in different countries, and identifies an agenda of needs and options for capacity development.

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This report is an output of the World Bank Strategic Environmental Assessment (SEA) Program in East Asia and Pacific Region. Its purpose is to update the progress made in the region after the first review entitled “Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements: Practices and Lessons Learned in East and Southeast Asia” carried out by the SEA program in 2005-06.

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Executive Summary

Since the 1970s, East and Southeast Asia have experienced rapid economic growth and an increasing range of environmental challenges. Many countries in the region still lack the capacity to assess and manage the environmental impacts of development. Strategic environmental assessment (SEA) is being increasingly used or introduced as a tool to safeguard the environment and ensure sustainability at the level of proposed policies, plans and programs (PPP).

This report describes recent progress with SEA in the region. It reviews and compares SEA practice of seven countries (China, Indonesia, Lao PDR, Malaysia, Philippines, Thailand and Vietnam), examines fifteen selected SEA cases from across the region and provides a series of recommendations for further development of SEA in the region.

Currently, the development of SEA systems in the region can be divided into four main categories:

- Countries that have established and implemented SEA systems, notably China and Vietnam, which have legal frameworks, specific guidance and increasing practice;
- Countries that are rapidly developing SEA frameworks¹, presently limited to Indonesia where MOE Guidelines on SEA (expected to be passed in 2009) and a proposed Presidential Decree on SEA will comprise an ambitious framework

¹ The term SEA framework used within this text refers to legal or regulatory requirements, and guidelines that guide implementation of SEA.

for considering sustainability of proposed PPP;

- Countries that have begun to elaborate SEA frameworks, comprising Malaysia, which is expected to issue a paper on undertaking SEA in early 2009, and Thailand and Philippines, both of which have developed basic proposals for SEA frameworks that await formal adoption; and
- Countries that are experimenting with SEA with the support of donors, namely Lao PDR, Cambodia and Fiji, which have undertaken pilot projects to road test and demonstrate the benefits of SEA for decision-making.

All other low-income or transitional countries in the EAP Region lack significant nationally driven or donor supported SEA initiatives.

Despite real progress, much remains to be done in developing SEA frameworks and relating them to prevailing planning systems and decision making cycles and developing cross-sector and inter-institutional coordination. Awareness raising and capacity building will be vital in this process.

Key conclusions and recommendations for further developing and strengthening SEA processes in the region include:

1) PROMOTE SEA AS A SET OF CORE ASSESSMENT ACTIVITIES THAT CAN BE FLEXIBLY INTEGRATED INTO PLANNING AND DECISION-MAKING

SEA should be instituted as a set of core assessment activities that are integrated into all phases of the planning process from the earliest stage, rather than applied as a

separate procedure. This flexible and integrated assessment approach should evolve gradually, initially through simple technical assessments and moving towards more sophisticated, open processes as planners gain familiarity with SEA use.

2) SEA SHOULD ADDRESS ENVIRONMENTAL AS WELL AS SOCIAL AND ECONOMIC CONCERNS OF DECISION-MAKERS AND RELEVANT STAKEHOLDERS

SEA frameworks in the region should provide for an integrated approach for analyzing environmental, social and economic implications of proposed PPPs. The scope and focus of SEA should be determined on a case-by-case basis through consultation with decision-makers, environmental authorities and other relevant stakeholders.

3) SEA SHOULD USE ROBUST ASSESSMENT APPROACHES THAT CAN OPERATE IN THE FACE OF SIGNIFICANT DATA GAPS

SEA practice in the region is constrained by limited access to data and a tradition of impact-focused, quantitative prediction. Simple assessment techniques that can cope with information gaps and use stakeholder inputs may provide a more feasible means of analysis. Pilot projects that test and demonstrate such approaches should be supported, backed by regulatory reforms to guarantee public access to information and promote inter-agency data sharing.

4) SEA SHOULD ADDRESS AND EVALUATE INSTITUTIONAL CAPACITIES AND ARRANGEMENTS FOR ENVIRONMENTAL MANAGEMENT AND INTEGRATION.

SEAs conducted in the region either implicitly or explicitly address institutional systems for managing impacts of

development. This aspect of SEA should be strengthened progressively to require analysis of the quality of institutional arrangements and capacities for environmental management and policy integration.

5) STRENGTHEN INTER-INSTITUTIONAL CONSULTATIONS AND GRADUALLY IMPROVE TRANSPARENCY OF SEA PROCESSES FOR THE PUBLIC

SEA processes should require inter-agency consultation and input at the stages of scoping and review of SEA findings, and public access and comment on SEA reports. Currently, it may not be realistic to expect the provision of major opportunities for public participation in SEA processes in the region. However, greater openness and transparency of SEA systems can and should be emphasized and pursued, especially with regard to unrestricted public accessibility of SEA reports.

6) USE OF SEA BY PLANNING AND IMPLEMENTING AGENCIES SHOULD BE SUPPORTED BY APPROPRIATE CAPACITY BUILDING ACTIVITIES

SEA will become widely and systematically applied only when the benefits from the use of this process are recognized by planning authorities. Particular value is added when SEA is used proactively to help formulate a PPP; yet this is where current capacity is weak and needs to be strengthened through training and awareness raising.

7) REGIONAL COOPERATION ON SEA MATTERS SHOULD BE STRENGTHENED AND SUPPORTED

To date, donor support has been instrumental in the development of SEA systems in the region. In all countries,

however, institutional arrangements and capacities reportedly are still inadequate and constrain the wide application of SEA. Regional cooperation mechanisms should be established to exchange experience on

SEA procedure and practice so that countries still experimenting with SEA can learn from neighbors that have advanced further.

Chapter 1: Introduction to the Study and its Methodology

STRATEGIC ENVIRONMENTAL ASSESSMENT

Strategic environmental assessment (SEA) refers to a family of analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programs and evaluate the inter linkages with economic and social considerations (OECD 2006). It is increasingly used to facilitate integration of environmental considerations, along with social and economic aspects, into strategic decision making at all stages. SEA adds particular value by analyzing PPPs at an early preparatory stage in their formulation, setting the context and framework for EIAs of subsequent projects. It thus complements the application of EIA, leaving this process

to focus on issues of how rather than whether or where a development proposal should go ahead.

SEA was initially promoted as an extension of EIA principles and practice to policies, plans and programs (UNECE, 1992). This approach is widely applied and is evident for example in the requirements of the European SEA directive (2001/42/EC). At the same time, other applications of the SEA process require more flexible approaches that do not conform, procedurally or methodologically, with traditional EIA practice. The key differences between SEA and traditional project-level environmental impact assessments (EIA) are described in the Table 1 below.

Table 1 Comparison of SEA and EIA

EIA	SEA
Applied to specific and relatively short-term (life-cycle) projects and their specifications.	Applied to policies, plans and programs with a broad and long-term strategic perspective.
Takes place at early stage of project planning once parameters are set.	Ideally, takes place at an early stage in strategic planning.
Considers limited range of project alternatives.	Considers a broad range of alternative scenarios.
Usually prepared and/or funded by the project proponents.	Conducted independently of any specific project proponent.
Focus on obtaining project permission, and rarely with feedback to policy, plan or program consideration.	Focus on decision on policy, plan and program implications for future lower-level decisions.
Well-defined, linear process with clear beginning and end (e.g. from feasibility to project approval).	Multi-stage, iterative process with feedback loops.
Preparation of an EIA document with prescribed format and contents is usually mandatory. This document provides a baseline reference for monitoring.	May not be formally documented.
Emphasis on mitigating environmental and social impacts of a specific project, but with identification of some project opportunities, off-sets, etc.	Emphasis on meeting balanced environmental, social and economic objectives in policies, plans and programs. Includes identifying macro-level development outcomes.
Limited review of cumulative impact, often confined to phases of a specific project. Does not cover regional-scale developments or multiple projects.	Inherently incorporates consideration of cumulative impacts.

Source: OECD 2006.

Sadler & Verheem (1996) outlined the key features of flexible SEA frameworks in terms of their guiding values, principles and process management rules, relationship to decision-making, application of sustainability concepts and integrated approaches to impact analysis, stakeholder participation, capacity building dimensions and follow-up and post-decision analysis. Many others have added to or reinterpreted these benchmarks and there is now a voluminous literature on this subject.

Although there is a broad international consensus on the basic purpose of SEA, this process and the approaches used are increasingly diversified, driven by applications in different policy and planning contexts in different parts of the world.

Scholars have responded with new models and typologies of SEA. For example, Therivel (2004) suggested the use of simple and practical analytical approaches to incorporate environmental or sustainability issues into different stages of planning processes. Fisher (2007) stressed that SEA performs different functions at various levels of decision-making and suggested that a structured SEA approach that addresses appropriate issues at different tiers of decision-making may be most suited for this purpose. Partidario (2007) re-emphasized the need to maintain strategic thinking in SEA and called for its flexible application to influence critical phases in decision making without adherence to rigid procedural blue-prints. The anatomy of the relationship of SEA and policy-making, as the apex of the decision-making process, is unpacked in Sadler (2005) which describes SEA experience in policy-making in a number of countries.

Recent work on the SEA at the World Bank has increasingly addressed the policy and

institutional aspects of SEA since strategic decision-making is essentially political and as such is significantly shaped by relations between key stakeholders, their bargaining power and ability to influence decisions. The World Bank (2005) or Ahmed & Sánchez-Triana (2008), for instance, suggested that in order to better influence the policymaking and implementation process, SEA should shift focus from producing a technical report which is associated with only a small part of the policy formulation and move towards a continuous process that also addresses institutional and governance considerations.

Bina (2006) observed that dialogue between relevant stakeholders is increasingly seen as being equally important as technical assessments and suggested that SEA should put more emphasis on negotiation and debate that accompanies key decision-making moments. World Bank (2008) illustrates that such SEA processes may be organized through participatory approaches that consider proposed developments, needs of relevant stakeholders and wider governance issues.

In recent years, SEA has been increasingly used in developing countries, including those in Asia. However, Dalal-Clayton and Sadler (2005) warn that the current SEA paradigms were established mainly in developed countries and that there is often no critical perspective on pros and cons of their application in developing countries where SEA elements may be applied partially or incompletely. They pointed out that “a key principle of SEA is that it should be fit for purpose, adapted to the context and circumstances of countries and political culture, traditions and institutional arrangements”. This view is echoed in the OECD/DAC SEA Guidance (OECD 2006).

REGIONAL BACKGROUND

In East and South East Asian countries environmental legislation was first introduced in the 1970s. EIA practice has evolved in the region since the 1980s and it has contributed to pollution prevention and control in numerous projects that have adverse impacts on the environment. However, there is still room for improvement in areas such as strengthening the legal systems, timing, public participation and information disclosure. On the other hand, limited scope and function of the EIA system has resulted in difficulties in meeting new challenges, and there are many issues that can be addressed only at the policy and strategic level.

Several developing and transitional countries of East and South East Asia (China, Vietnam, Philippines, Malaysia) have pilot tested SEA or similar assessment processes since the early 1990s. Since 2003, SEA has been institutionalized in the region, either as a [flexible] application of EIA principles during elaboration of plans or programs (China, Vietnam, Philippines, Thailand) or as more flexible approaches for integrating environmental considerations into planning processes (Indonesia, Malaysia).

The World Bank and other donor agencies have actively supported the application of SEA in decision making of development PPPs in key sectors in client countries for a number of years. For example, the World Bank approved and updated in 2004 its operation policy (OP 8.60) for development policy lending, which emphasizes upstream analytical work – such as SEA, Country Environmental Analysis (CEA), and other analyses. The Bank has issued a sourcebook for institutional, social and political analyses for policy reform. In 2005, the World Bank launched a SEA program in

East Asia and Pacific Region². The program carried out a regional review of EIA and SEA experience and released the report entitled “Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements: Practices and Lessons Learned in East and Southeast Asia” in 2006 and has sponsored a number of SEA studies in Region.

PURPOSE OF THIS REPORT

This report reviews and evaluates recent progress with SEA application in the region. Particularly it summarizes the lessons learned from evolving SEA systems in China, Indonesia, Malaysia, the Philippines, Thailand and Vietnam and also takes into account experience from SEA pilot projects in Cambodia, Lao PDR and Fiji.

The objectives of this report are to (a) provide an overview of the latest development of SEA requirements and practice, (b) document and review new SEA case studies, and (c) recommend actions for further promoting SEA in the region.

APPROACH AND METHODOLOGY

There are several works on the criteria of SEA performance evaluation (IAIA 2002, OECD 2006). Table 2 outlines the key principles of good SEA practice recommended by the International Association for Impact Assessment (IAIA), which have been adapted for World Bank work on SEA (e.g. Ahmed et al, 2005, Ahmed & Fiadjoe, 2006).

² for more information, please visit www.worldbank.org/eapenvironment/sea-asia

Table 2 Strategic environmental assessment performance criteria

<i>Accountable</i>	<ul style="list-style-type: none"> • Is the responsibility of the leading agencies for the strategic decision to be taken • Documents and justifies how sustainability issues were taken into account in decision making • Is carried out with professionalism, rigor fairness, impartiality and balance • Is subject to independent checks and verification
<i>Iterative</i>	<ul style="list-style-type: none"> • Ensures availability of the assessment results early enough to influence the decision making process and inspire future planning • Provides sufficient information on the actual impacts of implementing a strategic decision to judge whether this decision should be amended
<i>Integrated</i>	<ul style="list-style-type: none"> • Ensures an appropriate environmental assessment of all strategic decisions relevant for the achievement of sustainable development • Addresses the interrelationships of biophysical, social and economic aspects • Is tiered to policies in relevant sectors and, where appropriate, to project EIA and decision making
<i>Sustainability-led</i>	<ul style="list-style-type: none"> • Facilitates the identification of development options and alternative proposals that are more sustainable
<i>Focused</i>	<ul style="list-style-type: none"> • Provides sufficient, reliable and usable information for development planning and decision making • Concentrates on key issues of sustainable development • Is customized to the characteristics of the decision making process • Is cost and time effective
<i>Participative</i>	<ul style="list-style-type: none"> • Informs and involves an interested and affected public and government bodies throughout the decision making process • Explicitly addresses their inputs and concerns in documentation and decision making • Has clear, easily understood information requirements and ensures sufficient access to all relevant information

Source: IAIA, 2002.

Considering IAIA SEA Performance criteria, OECD/DAC SEA Guidance and the regional context of this study, the following review questions were formulated and used in this study for comparing country systems and case studies:

- What is the role of SEA systems in the Region? Is SEA being used as an environmental safeguard tool to evaluate already drafted PPPs before their adoption; or is it more flexibly applied as a planning-support tool that

facilitates environmental consideration during actual elaboration of PPPs?

- What is the relationship of SEA to decision-making?
- What issues are normally addressed in SEAs? Are SEAs being used to analyze mainly narrow biophysical environmental impacts; or do they also consider wider social and economic implications?
- Are SEAs being used to improve administrative arrangements for integration of environmental issues in development planning? Do SEAs

provide mainly technical information about the impacts of proposed developments; or do they also consider the adequacy of institutional frameworks for managing the impacts of proposed developments?

- What analytical approaches are used for conducting SEAs in the Region? How are these applied when there is an absence of reliable data?
- Do SEA systems in the Region facilitate engagement of key stakeholders and public access to information?

This report has been prepared mainly through desk study reviews of available literature and case studies. It began with detailed analyses of SEA systems of seven countries in the Region that outlined: (a) national policy commitments to integrate environmental issues into PPPs; (b) regulatory bases for SEA; (c) administrative arrangements for conducting SEA; (d) applicable rules for stakeholder engagement in SEA; (e) SEA guidance and methodological support; and (f) SEA capacity development.

An overview of country systems identified approximately 80 pilot SEAs or assessments with SEA elements that were conducted in the Region during 2000-2008. Out of these SEA applications, 15 SEA case studies were selected and reviewed. They are listed in Box 1 (following page).

These case studies were analyzed through a detailed review of: (a) development context; (b) key issues addressed; (c) analytical approaches adopted; (d) stakeholder engagement; (e) results of the SEA process; (f) link between SEA and planning processes or decision-making; (g) provisions for monitoring and follow-up; and (h) capacity building elements.

This report summarizes the findings and lessons learned from the comparative analysis by country and case study. It does not examine in detail the effectiveness of SEA in the context of governance systems that shape planning and policy making in the Region due to the limitation of information, resources and time. However, further analysis of this relationship is recommended since most SEA systems in the Region appear to operate in policy environment which is generally not conducive to integrated planning and transparent decision-making.

STRUCTURE OF THE REPORT

The report is divided into five chapters. Following this introductory chapter:

- Chapter 2 provides a comparative overview of key features of evolving SEA practice in the Region. It focuses especially on the scope and function of SEA, its linkages to decision-making, areas and aspects addressed, use of analytical approaches, treatment of institutional capacity issues in SEAs, stakeholder engagement, and public access to information.
- Chapter 3 discusses country systems for SEA, highlighting the latest development of SEA requirements and applications.
- Chapter 4 examines key features of the fifteen SEAs that were selected to review practical experience and lessons learned.
- Chapter 5 presents the conclusions and recommendations of the analysis.

Box 1 SEA case studies reviewed

1. Cambodia: Strategic Environmental Assessment of the Tourism Sector (2008)
2. China: Preliminary SEA of the Great Western Development Strategy
3. China: SEA of Tourism Development in the Guizhou Province (2007)
4. China: Strategic Environmental Assessment for Hubei Road Network Plan (2008)
5. China: Strategic Environmental Assessment of the Dali Urban Development Master Plan (2008)
6. Fiji: SEA of Tourism Development Plan (2003)
7. Indonesia: SEA Pilot Study at Ciayumajakuning, West Java (ongoing since 2007)
8. Indonesia: SEA for Spatial Planning in Papua Province (2008)
9. Lao Peoples Democratic Republic: Cumulative Impact Assessment and Strategic Impact Assessment for Nam Theun II Hydropower Development (2005)
10. Philippines: Regional Environmental Assessment for Manila Third Sewerage Project (2005)
11. Vietnam: Strategic Environmental Assessments of land use plans and economic zones (2006-2008)
12. Vietnam: Strategic Environmental Assessment of the Quang Nam Hydropower Development Plan (2007)
13. Vietnam: Strategic Environmental Assessment for Sustainable Hydropower Development (2008)
14. Vietnam: Strategic Environmental Assessment for Socio-Economic Development Plan of Con Dao District (2007)
15. Vietnam: Strategic Environmental Assessment for the Vinh Phuc Social Economic Development Plan 2006 - 2010 (2008)

Chapter 2: Comparative Analysis and Key Findings

This chapter presents the results of comparative analysis of countries and case studies by key features of SEA, i.e., the role, legal requirement, linkage with decision making, focus areas, analytical approaches and data, institutional strengthening, stakeholder engagement and information disclosure.

ROLE OF SEA

The main purpose of the SEA is to ensure that environmental or sustainability concerns are integrated into PPP preparation and decision-making. In reality, the roles of SEA vary as observed in different SEA systems around the world.

Two main types of SEA can be identified. First, SEA can be used as environmental safeguard check on already drafted PPPs before their adoption. Second, SEA can be applied as a fully internalized planning tool to consider relevant environmental or sustainability concerns during PPP elaboration. In principle both approaches to using SEAs are not mutually exclusive, but a preference toward one or the other has significant implications for SEA practice.

In the region, SEA applications are rooted in experience with EIA, which sometimes fails to play its designated safeguarding role. EIA often starts when a decision on the project including design, site and construction preparation has already been made. To date, EIAs in the region are only marginally used as planning-support tools during the design of development projects.

The legacy of using EIA as an environmental safeguard tool for already prepared projects has some implications for the function of SEA in the region.

LEGAL REQUIREMENTS FOR SEA

The different roles or functions of SEA have been seen in legal requirements for SEAs in study countries and can be exemplified in the Chinese SEA system, where two approaches to conducting SEA exist.

In China, SEA for the preparation of sector plans (e.g., for industry, agriculture, animal husbandry, forestry, energy, water conservancy, transportation, urban construction, tourism and natural resources development) analyzes the impacts of drafted development plans before their adoption. It requires the preparation of a separate Plan EA Report, which should be reviewed independently prior to decision-making on the relevant plan.

In the second approach, SEA is used to integrate environmental considerations into all phases of the preparation of spatial and land use plans, including those for the development and utilization of regions, river basins and sea waters. For these plans, China's EIA Law requires the preparation of EA Chapter or Statement which should be elaborated during the preparation of the plan and is a part of the proposed plan itself. This approach requires only basic reporting by the planning team.

The first SEA approach resembles a 'soft form' of environmental permitting for plans; the second promotes the use of SEA as a fully integrated planning tool.

Unfortunately, very limited information on the effectiveness of EA Chapters or Statements for achieving integration of environmental issues into the spatial plans in China is currently available. A thorough scrutiny of this process could provide

useful information on the benefits and pitfalls of this process.

With regard to the practical implementation of the Plan EA Reports for sector plans before their adoption, Zhu and Ru (2008) offer thought-provoking insights on effects of inter-departmental politics on the use of SEA as an environmental safeguard tool for already drafted plans by powerful sector agencies or territorial administrations. They note that at the national level, development ministries have resisted SEPA (now MEP) oversight in their decision-making processes either by approving plans without conducting SEA or by avoiding SEPA review of planning SEAs. They conclude that bureaucratic politics pose different obstacles to SEA practice from those reported in other developing countries, that these factors may be specific to China, and that more studies are needed in this regard.

In *Vietnam*, the process of establishing a SEA system has emphasized the need for full SEA ownership by planning authorities. SEA provisions in the new Environmental Protection Act laid down only framework requirements for SEA application. This law clearly stipulates that the SEA Report must constitute an integral content of the SPP (strategies, plans and planning documents) and must be prepared concurrently with their formulation.

MONRE technical guidance on SEA also indicates that that SEA should be flexibly tailored to the logic and steps of the lead SPP planning process. Donor support, SEA training, awareness raising and pilot projects have all been instrumental in reinforcing this approach.

The situation in other countries can be summarized as follows:

- In *Indonesia*, the draft Regulations on SEA proposed for adoption in 2009, promote the use of SEA to mainstream sustainable development during the planning process;
- In *Malaysia*, the SEA process, still under development, is currently being transformed into a sustainability appraisal process that applies to plan formulation;
- In *Philippines*, pending legislation stipulates that SEA should be conducted as part of PPP formulation; and
- In *Thailand*, preparatory work on SEA guidance has focused on an approach with common procedural elements (including screening, scoping, and analysis of alternatives) but flexible application depending on the nature of the proposal and level of detail is required.

In summary, among the countries surveyed, only China aims to use SEA mainly as an environmental safeguard check of already drafted sector plans before their submission to decision-making. Currently, however, the Ministry of Environmental Protection promotes more pro-active use of SEA during the actual elaboration of these plans.

In the rest of the region, the SEA frameworks established (Vietnam) and evolving (all other countries), primarily aim to use SEA as a planning-support tool. They typically apply flexible SEA procedures to consider environmental or sustainability concerns during the planning process and to document this process for decision-making.

TIMING OF SEA AND LINKS WITH DECISION-MAKING

Ideally, in order to assist with the formulation of PPPs, SEA should be undertaken at the very earliest stages of decision making. When SEA is conducted during elaboration of PPPs, it can be either fully integrated into core planning or it can operate as a parallel 'stand-alone' process that provides input into the key stages of the PPP elaboration.

However, early application of SEA during formulation of the PPP may not be always feasible, and OECD (2006) recommended that SEA may be also applied to evaluate an existing PPP, or one that is about to be revised, to identify its environmental consequences.

Lessons from SEA case studies

Table 3 summarizes links of SEA cases to decision-making. Interestingly, most SEAs focused on multiple planning proposals that shaped future developments in the chosen sector or study area.

No SEA reviewed within this study was prepared from the beginning of the planning process and completed together with the proposed PPP. At best, SEA was done after a PPP had been drafted and before its submission for decision-making (e.g. SEA for Tourism Sector in Cambodia or REA for Manila Third Sewerage Project).

Most of the case studies were performed for completed plans, programs or policies in order to provide recommendations for their implementation and to influence future planning processes. Several SEAs also provided input into ongoing decision-making on specific projects.

Most SEAs evaluated in this study were

separate exercises with only loose formal links with the elaboration of the respective PPP. This may reflect the closed nature of planning processes in the region where PPP elaboration is often regarded as a purely internal responsibility of a particular ministry. In this closed planning process, inter-institutional coordination and 'add-on analyses' that would be fully integrated into PPP elaboration and open to heavy influence by other sectors is not generally welcome.

In order to operate in this complex environment of constraining power-relationships, the majority of SEA cases tried to influence future planning processes or future modifications of already approved plans with environmental impacts that still need to be addressed. They were thus not constrained by boundaries of the planning process or encroached on by power-relations between various institutions in the decision-making, and aimed only to provide insights and information for future decisions or to foster inter-institutional consultation.

This study did not have the resources to analyze the influence of the SEA cases on governmental decision-making in its wider sense. However, it is useful to note experience from Quang Nam Hydropower Plan SEA in Vietnam. This study demonstrated that SEA, when conducted in close partnership with the decision-making authority, may have important indirect inputs to decision-making. It indicates that governmental decision-making is not limited to one particular decision or planning process and SEA can contribute to internal deliberations by relevant authorities.

The importance of SEA ownership by the planning authorities was raised in all but one of the SEAs reviewed in this study. It

was explicitly noted that the most important factors for affecting decision-making through SEA were close cooperation with the planning authorities

and involvement of key relevant agencies with mandates related to environmental and social issues or other concerns addressed in the SEA.

Table 3 Links between SEA cases and decision-making

SEA Cases	Focus of the assessment				
	Future PPP	Proposed PPP before adoption	Already approved PPP	Subsequent plans to implement PPP	Proposed projects
Cambodia: SEA of the Tourism Sector	X	XX			
China: Preliminary SEA of the Great Western Development Strategy			XX		
China: SEA of Tourism Development in the Guizhou Province			XX	X	
China: SEA for Hubei Road Network Plan			XX		X
China: SEA for Dali Urban Development Master Plan	X	XX			X
Fiji: SEA of Tourism Development Plan	X		XX		
Indonesia: Ciayumajakuning pilot SEA	XX				
Indonesia: SEA for Spatial Planning in Papua Province	XX		X		
Lao PDR: CIA for Nam Theun II Hydropower Development	X				XX
Lao PDR: SIA for Nam Theun II Hydropower Development	X				XX
Philippines: REA for Manila Third Sewerage Project		XX			
Vietnam: SEA of Quang Nam Hydropower Plan			XX		
Vietnam: SEA for Sustainable Hydropower Development	XX		X		
Vietnam: SEA for Con Dao Socio-Economic Development Plan	XX		X		
Vietnam: SEA for the Vinh Phuc Social Economic Development Plan	XX		X		
Vietnam: SEMLA pilot SEAs		X	XX		

(Note: xx -- primary focus; x - secondary focus; blank cell - not addressed)

MAIN FOCUS OF SEAS

SEA may focus either on purely environmental issues; or may involve more integrated assessment of the environmental, social and economic factors. Each of the different approaches to SEA has its own benefits and risks; and as OECD (2006) notes neither is superior, nor are they are totally separate and the most appropriate one is that best suited for decision-making needs in a particular situation. In all cases, the SEA approach must ensure that environmental impacts or implications of the proposed PPP are analyzed and used to inform decision-making.

Regulatory requirements

SEA legislation in China and Vietnam include rudimentary, ad hoc requirements for assessment of certain social and economic impacts. These do not provide a systematic framework for focusing assessments on relevant issues. The proposed SEA framework in the Philippines is mainly focused on environmental issues but includes opportunities to incorporate social and economic concerns. Evolving SEA frameworks in Indonesia, Malaysia and Thailand aim to address relevant environmental, social or economic concerns.

Findings from case studies

Table 4 summarizes the focus of SEA cases analyzed within this study. Out of 15 SEA cases, only about one-third focused on purely environmental issues. The remaining SEA cases included consideration of social or economic issues; one-third of all cases partly addressed social or economic issues and another one-third considered the full range of environmental, social and economic concerns.

This overview indicates the importance of

addressing especially social impacts, and increasingly economic impacts in the region. Interestingly, many of the cases addressed the implications of the proposals on developments in related sectors, reflecting the fact that existing planning processes may not include sufficient analyses of knock-on effects between various developments.

As Levett and McNally (2003) remarked, based on experience from conducting SEA in Fiji, the option of looking at social and economic issues together with environmental issues proved essential for getting a coherent understanding of issues and formulating practicable recommendations.

SEKALA et al (2008) note that all issues are interlinked in countries that derive most of their economic income from the exploitation of natural resources, and SEA would have a limited value if focused only on environmental issues.

In Vietnam, Dunn (2008) observes that the inclusion of a broad range of issues in SEA of hydropower plans highlighted the need for a broader range of management intervention than could have been achieved if only environmental impacts were assessed. SEI (2008) after conducting another SEA for the hydropower sector in Vietnam also emphasized the value of a relatively broad sustainability focus as opposed to only looking at environmental impact.

Summary

SEA frameworks should not provide rigid requirements about issues that need to be addressed in each SEA application. Each planning process, in some measure, is unique and triggers specific environmental and possibly also social or economic

concerns. SEA should have a capacity to address relevant issues and its scope should be determined on a case-base basis.

The specific issues to be addressed in each particular SEA should be identified through consultations with decision-makers and environmental authorities. SEA frameworks should provide for the possible inclusion of related social or economic issues in the

scope of the assessment, where consultations show that this is necessary to support informed planning and decision-making.

A possible dilution of environmental concerns in any widely-focused SEA can be addressed through arrangements for proper scrutiny of conducted SEAs by relevant environmental authorities.

Table 4 Focus of SEA cases

SEA Cases	Focus of the SEA			
	Environmental issues	Social issues	Economic issues	Impact on other sectors
Cambodia: SEA of the Tourism Sector	XXX	X		
China: SEA of the Great Western Dev. Strategy	XXX			
China: SEA of Guizhou Tourism Development	XXX	XXX	XXX	XX
China: SEA for Hubei Road Network Plan	XXX	X	X	X
China: SEA for Dali Urban Development Master Plan	XXX	X	X	
Fiji: SEA of Tourism Development Plan	XXX	XXX	X	XXX
Indonesia: Ciayumajakuning pilot SEA	XXX			
Indonesia: SEA for Spatial Planning in Papua Province	XX	XXX	X	XXX
Lao PDR: CIA for Nam Theun II	XXX	XXX		XXX
Lao PDR: SIA for Nam Theun II	XXX	XXX		XXX
Philippines: REA for Manila Third Sewerage Project	XXX		XX	
Vietnam: SEA of Quang Nam Hydropower Plan	XXX	XXX	XXX	XXX
Vietnam: SEA for Hydropower Development	XXX	XXX	XXX	XXX
Vietnam: SEA for Con Dao Socio-Economic Plan	XXX			X
Vietnam: SEA for the Vinh Phuc Social Economic Plan	XXX			X
Vietnam: SEMLA pilot SEAs	XXX	XX		

(Note: xxx -- primary focus; xx - secondary focus; x marginal focus; blank cell - not addressed)

INSTITUTIONAL STRENGTHENING

SEA frameworks in the Region are strongly influenced by experience and practice in developed countries. In this regard it is important to note that most developed countries have already established advanced environmental regulatory and policy frameworks, monitoring systems and implementation and enforcement protocols. In these countries, SEA supplements existing environmental management systems by providing technical information on the likely significant impacts of proposed PPPs before their adoption.

The question is whether the same narrow technical focus of SEA should be retained in countries that do not yet have fully established institutions and arrangements for implementation of environmental policies and commitments. In this regard, OECD/DAC (2006) suggests that effective SEA in developing or transitional countries should focus on strengthening institutions, governance and decision making processes rather than being just a simple, linear, technical approach focused only on assessment of impacts of proposed developments.

Regulatory requirements

The existing or proposed SEA frameworks in the Region define SEA as the assessment of specific impacts of development proposals. No SEA frameworks in the Region have been reported to require analyses of institutional arrangements for managing adverse impacts of proposed PPPs.

Lessons from SEA case studies

Despite the lack of legal obligations, all SEA cases reviewed in this study implicitly or explicitly used SEA to consider wider

institutional issues in the environmental management of development planning. Such considerations were especially part of mitigation measures that regularly suggested improvements in coordination between relevant authorities on certain measures; or proposed procedural innovations to enhance administrative supervision of existing developments. A few SEAs, such as SEA of Fiji's Tourism Plan, SEA of Hubei Road Network or SEA of Quang Nam Hydropower Plan, incorporated evaluation of institutional issues into the core methodology for assessment of the respective development proposals.

This reflects the need to enhance the existing administrative and procedural arrangements for managing environmental and social side-effects of ongoing developments in the Region.

Mercado (2008) suggests that SEAs may need to consider recommendations towards improving or redefining existing policy frameworks such as local ordinances or national policies that may actually constrain implementation of SEA recommendations. The same issue is also echoed by Levett and McNally (2003) and Kuswartojo (2008).

Econ Poyry (2008) pointed out however that institutional analyses should be undertaken within SEA only when the ongoing environmental trends and expected new impacts warrant such considerations.

In summary, the review of experience from case studies indicates that SEAs conducted in the Region should at least comment on adequacy of the relevant management systems and administrative capacities for environmental integration in the given sector or territory.

At the minimum, policy conflicts between

SEA recommended actions and existing procedures or guidelines must also be made

part of SEA analysis and input.

Table 5 Treatment of institutional issues in SEA cases

SEA Cases	Institutional issues treated through		Main recommendations on institutional issues		
	Explicit evaluation	Implicit evaluation	Improved coordination between authorities	Proposals for new procedures or economic instruments	Recommended capacity building within key institutions
Cambodia: SEA of the Tourism Sector		XX	X	XX	XX
China: Preliminary SEA of the GWDS					
China: SEA of Tourism in the Guizhou Province		XX	XX	X	X
China: SEA for Hubei Road Network Plan	XX		XX		XX
China: SEA for Dali Urban Master Plan		X	XX	XX	
Fiji: SEA of Tourism Development Plan	XX		X	XX	X
Indonesia: Ciayumajakuning SEA		XX	X		X
Indonesia: SEA for Spatial Planning in Papua		X	X		X
Lao PDR: CIA for Nam Theun II			X		X
Lao PDR: SIA for Nam Theun II		XX	X		X
Philippines: REA for Manila Sewerage Project		X	X	X	X
Vietnam: SEA of Quang Nam Hydropower Plan		XX	XX	XX	X
Vietnam: SEA for Hydropower Plan	XX		XX	XX	X
Vietnam: SEA for Con Dao SEDP		X	X	X	X
Vietnam: SEA of Vinh Phuc SEDP		X	XX	X	X
Vietnam: SEMLA pilot SEAs		X	X		XX

(Note: xx -- primary focus; x - secondary focus; blank cell - not addressed)

ANALYTICAL APPROACHES AND DATA ISSUES

OECD/DAC (2006) emphasizes that SEA is a family of approaches which use a variety of tools qualitative and quantitative, quick and simple, complex and comprehensive. It illustrates the range of applicable analytical tools in SEA by mentioning, for example: tools for predicting environmental and socio-economic effects (such as modeling or forecasting; matrices and network analyses; participatory or consultative techniques; geographical information systems) and tools for analyzing and comparing options (such as scenario analysis and multi-criteria analysis, risk analysis or assessment; and cost benefit analysis or opinion surveys to identify priorities).

The reference to modeling and forecasting in the OECD/DAC SEA Guidance is somewhat surprising since many OECD countries that apply SEA on a routine basis tend to use such predictive tools only sporadically. Indeed, an analysis of SEA applications in the United Kingdom indicates there appears to be prevailing preference for quick appraisal techniques and consultative tools. Specifically, modeling has been little used among 200 UK authorities that participated in a survey by Therivel & Walsh (2005). Evolving SEA practice in Europe also demonstrates the tendency to use the simplest available tools to quickly provide sufficient information and insights for discussion with the relevant authorities.

Recommended analytical approaches in the region

In *China*, the trial version of MEP Technical Guidelines for Plan EA suggests that the following tools could be used (Li, 2005):

- Screening methods, such as checklists, matrices, comparison analogues, consistency analysis and expert consultation;
- Analysis of the environmental background by collecting data, investigating and monitoring, GIS;
- Identifying the environmental impact of a plan, using a checklist, matrix, network analysis, system diagrams, scenario analysis;
- Public participation techniques, such as meetings, questionnaire, public consultation, dissemination of information through mass media;
- Forecasting and estimating the environmental impact of a plan, using input-output analysis, environmental mathematical model, scenario analysis, weighted comparison (multi-criteria analysis), cost-benefit analysis, analyzing hierarchy procedures, attainment of sustainable development objectives, comparative evaluation, environmental carrying capacity analysis; and
- Cumulative environmental impact assessment based on expert consultation, checklist, matrix, network analysis, system diagram, environmental mathematical mode, environmental carrying capacity analysis.

These recommended tools appear to be generally applied in practice. Table 6 summarizes results of a quick survey (YEPB & Sida, 2009) that canvassed responses from SEA practitioners and indicated a preference towards a mixture of quantitative and qualitative analytical tools in SEA practice.

Table 6 Analytical tools perceived as useful by practitioners in China Yunnan province

Analytical tools	Preference by SEA practitioners
Environmental Mathematical Modeling	92%
Comparison and Analogy Methods	83%
Checklist	67%
Matrices	67%
Collective expert judgments	67%
Environmental carrying capacity analysis	67%
System diagram	59%
GIS	58%
CBA	58%
Documentation review	58%
Input-output analysis (General Equilibrium model)	50%
Scenario analysis	50%
Analytic hierarchy process	25%
Multi-criteria analysis	25%
Planning methods	25%
Ecological economics	25%
Statistical analysis	25%
Sustainability evaluation	17%
Network analysis	17%
Ecological function flow analysis	8%

Source: YEPB & Sida, 2009

In *Vietnam*, the MONRE General Technical Guidance on SEA provides various tips for practitioners conducting SEA and suggests that a broad trend analysis be used as the primary analytical approach in SEA. This analytical approach can combine many different tools and it has the capacity to analyze cause-effect relationships even in situations constrained by significant data gaps. It is suggested that trends can be presented through i) story-lines describing the overall trends, their main drivers, their territorial dimensions and key concerns and opportunities arising from these trends; ii) maps showing spatial development patterns; iii) graphs illustrating evolution of key issues over time (possibly showing how to correlate them without drivers); or iv) calculations and comparisons with relevant points of reference.

In addition, the MONRE guidance provides an outline of the following analytical and

participatory techniques that can be used within the SEA processes: expert judgments, checklists, SWOT, matrices, networks and flow diagrams, spatial analyses including overlay maps and GIS, trend analysis/extrapolation, delphi technique, modeling, and multi-criteria analysis.

In reality, most SEAs performed by national consultants in Vietnam so far appear to rely on ad hoc use of expert judgments, matrices and GIS. The key weakness of this approach is that baseline studies and impact assessments are usually not clearly inter-linked. SEA projects supported by various donors in Vietnam therefore promote trend analyses that compare future trends without the proposed PPP (baseline trends) with trends as influenced by the planning proposals (impact analysis). This approach again relies on expert judgments, matrices and GIS but within a more robust analytical framework.

Some pilot SEAs in Vietnam have used emission and waste calculations based on emission and waste coefficients. These are commonly used tools for e.g. EIA of industrial sites. Such calculations can be sufficient for forecasting waste & emissions based on known and stable factors like population projections. They are however less precise for forecasting impacts of industrial development since composition of industries may quickly change due to rapid economic development in the country.

In *Indonesia*, the draft MOE Guidelines for SEA proposes to use tailor-made methods that allow each application to develop its own methodology as long as it fulfills SEA principles. The basic tools that are being currently considered include carrying capacity assessment, economic valuation of natural resources and environment, and system dynamic developed by Bappenas. MOE also intends to build partnership with experts/universities to serve as a think tank for the development of SEA systems and to strengthen and widen the current Inter-ministerial Working Group on SEA to cover data & information providers, and other strategic partners in key sectors.

Little information on recommendations for the use of analytical tools is available in Malaysia, Philippines or Thailand.

Lessons from SEA case studies

As evident from Table 7, most SEAs used simple matrices to outline possible effects of actions proposed in the respective PPP and verified these analyses through expert consultations. Some SEAs used scenario-based approaches and simple GIS applications. Interestingly, most of them focused on assessment of key risks, and much less on the assessment of specific impacts.

Several SEA cases in Vietnam applied trend analysis which is recommended as the primary analytical approach in MONRE General Technical Guidelines for SEA (MONRE, 2007). As Dunn (2008) for instance reports, trend analysis provided robust and flexible assessments that allowed for a systematic comparison between the existing baseline situations and likely future trends without and with (in this case) hydropower development. Most importantly, trend analysis methodology was particularly effective for engaging decision makers in the assessment, as it provided a simple and transparent framework for discussing impacts and alternatives. This outcome was enhanced by combining trend analysis with GIS tools to provide visual maps showing spatial dimensions of key issues.

Economic valuation and multi-criteria analysis were used only once while preparing scenarios and undertaking a risk and mitigation assessment in a broad SEA of the Vietnam Hydropower Sector. SEI (2008) then concluded that these techniques had proven to be valuable and provided empirical evidence that supported the assessment. However, it should be noted that these techniques were designed and used by a mainly international team and that several in-country SEA experts questioned their possible wider use in mainstream SEA practice in Vietnam.

Almost all SEAs analyzed within this study relied on professional judgments based on available sources of information. However, the absence of adequate baseline data (especially temporal data sets) and limited accessibility of earlier studies conducted by other agencies and research bodies have been frequently pointed out as an issue.

In this context, Mercado (2008) observes that requests for detailed quantitative

assessments in the region may not be triggered by striving for precision in environmental assessment, but rather by a lack of consistent and reliable baseline data to which SEA practitioners could refer when conducting quick appraisals. More quantitative analyses therefore are often requested to simply compensate for the

limited access to up-to-date information on the state of the environment and development pressures. It is worth noting that nearly all SEA teams reported challenges in accessing official data, especially time series data.

Table 7 Analytical approaches used in SEA cases

Cases	Analytical approaches used in various SEA studies								
	Reference to other studies	Expert judgments	Consultations with stakeholders	Matrices	GIS	Scenarios	Modeling	Economic valuations	Multi-criteria analyses
Cambodia: SEA of the Tourism Sector		XX	X	XX					
China: SEA of the GWDS	X	XX		XX		X	X		
China: SEA of Guizhou Tourism		XX	X	XX		XX			
China: SEA of Hubei Road Plan				X	X	XX	XX		
China: SEA for Dali Urban Master Plan		X	XX	X	XX	XX	X		
Fiji: SEA of Tourism Development Plan	X	XX	X	XX					
Indonesia: Pilot SEA Ciayumajakuning		X	XX						
Indonesia: SEA in Papua Province		X	X		XX	XX			
Lao PDR: CIA for NT2	XX	XX							
Lao PDR: SIA for NT2	XX			XX			XX		
Philippines: REA of Sewage Project		X	XX						
Vietnam: SEA in Quang Nam		XX	XX	XX	XX	X			
Vietnam: SEA for Hydropower Sector		X	X			XX	XX	XX	XX
Vietnam: SEA of Con Dao SEDP		XX	X	XX					
Vietnam: SEA of Vinh Phuc SEDP		XX	X	XX					

(Note: xx -- primary focus; x - secondary focus; blank cell - not addressed)

SEA cases from China and Vietnam often mentioned that it was even difficult to access already completed EIAs or other studies prepared for the government. SEA teams, therefore, could not use or verify outcomes of previous assessments. The lack of open access to various environmental reports prepared for the government appears to pose a major problem in operating efficient SEA systems.

STAKEHOLDER ENGAGEMENT IN SEA

Organizing open discussion on negative impacts of proposed PPPs is a challenge in every country, and especially in those which score below international average in terms of transparency and accountability of governmental decision-making. A further obstacle in the region is that SEA experts have more experience with traditional EIA than with stakeholder consultation and thus tend to focus on technical aspects of the assessment (Econ Pöyry, 2008).

It is useful to note that there are no blueprints for stakeholder engagement in SEA as some SEAs may engage a broad range of stakeholders whereas others may be limited to expert policy analysts (OECD, 2006). Engagement processes can be facilitated through stakeholder analysis to identify those affected by or involved in the PPP decision; and undertaking various forms of consultations; surveys or consensus building processes.

Regulatory requirements

Formal requirements for SEA exist only in China and Vietnam and these include provisions for public participation. This review summarizes these provisions without examining the wider arrangements for involvement of the public and governance context that shapes involvement of various stakeholders in

strategic decision-making.

China EIA Law (Article 11) requires the institutions responsible for preparing the specific plan to hold expert meetings and public hearings or in other ways to solicit comments and suggestions from relevant authorities, experts and the public on the draft Plan-EA Report, except for those that are confidential as stipulated by the state. The planning agencies are required to seriously consider comments and suggestions obtained on the draft Plan-EA and explain whether they have adopted them or not in the final Plan-EIA Report that is submitted for review.

Additional requirements for public participation in SEA are stipulated in MEP's Provisional Measures for Public Involvement in Environmental Impact Assessment (hereafter Public Involvement Guideline) issued in February 2006. Article 33 requires those preparing draft Plan-EA Reports for sector plans to solicit opinions of the related organizations, experts and the public. Such inputs should be solicited through formal evidentiary hearings or more open evaluation workshop that are to be coordinated by the organizations in charge of preparing these plans. The detailed suggestions for organizing evaluation workshops are stipulated in Articles 21-23, and the format of the formal evidentiary hearings is laid down in Articles 25-32.

In *Vietnam*, Article 17 of the 2005 Law on Environmental Protection gives organizations and individuals the right to submit their comments during the review of SEA Reports. Comments can be submitted to relevant environmental protection agencies that are responsible for establishing the review council or to agencies that are responsible for approval of the proposed SPP. The review council and

the agencies responsible for SPP approval are responsible for considering these comments before making their conclusions and decisions.

Further to this, the draft MONRE General Technical Guidelines on SEA (MONRE & SEMLA, 2007) recommend that the teams conducting the SEA should actively encourage input of relevant authorities and of the public during the assessment process. It calls for identification of key stakeholders and preparation of a stakeholder engagement plan to be conducted in the initial stage of the assessment process. To this end, the guidelines provide tips on identification of stakeholders and offers overviews of the following participatory tools: printed material inviting comments, displays and exhibits, information hotline/staffed telephone lines, internet/web-based consultations, questionnaires and response sheets, surveys, public hearings, workshops, advisory committee.

Initial experience with the first pilot SEAs that used the local resources in Vietnam indicates that public participation will be perhaps the most challenging part of any SEA. The key problem is a resistance of government officials towards sharing of data and information. In existing administrative settings, data are treated as a resource to be sold rather than freely shared and information is seen as a source of power. These issues will be the most difficult and lasting obstacle to implementation of any transparent decision-making system, including SEA in Vietnam³.

Proposals for establishment of SEA frameworks in Indonesia, Philippines and

Thailand contain basic provisions for involvement of relevant governmental agencies during scoping and review of SEAs. They also suggest that the public is given an opportunity to comment on the outcomes of the SEA.

Lessons from SEA case studies

Most SEAs analyzed within this study facilitated engagement of relevant authorities and provided minor opportunities for participation by citizens.

As shown in Table 8, engagement of governmental stakeholders in the SEA was most frequently arranged through problem-solving workshops or by formation of ad hoc advisory commissions that met periodically to provide input throughout the assessment process. In addition, structured interviews and surveys with key officials were frequently used.

Many SEAs facilitated involvement of NGOs and academic institutions. Marginal opportunities were given to participation of ordinary citizens. This may be natural since it is often not clear who will bear the main benefits and problems from a plan, program or policy.

While consultations with these organized stakeholders may appear time consuming and expensive to organize, these costs may represent only a fraction of the overall costs for conducting SEAs. Dunn (2008) for instance reported that costs of workshops and meetings took only about 5% of the entire cost of a very influential SEA for the Quang Nam Hydropower Plan. The participatory approach, however, helped build consensus among stakeholders regarding key issues, feasible alternatives and mitigation measures. This ultimately improved the outcome of the SEA, as many of the key recommendations had already

³ Source: Dusik and Nam (2008) Status of SEA in Vietnam, unpublished material elaborated within this study

been thoroughly discussed with stakeholders.

consultations should be given to involvement of a range of relevant authorities and organized groups, such as academic organizations and NGOs.

In summary, in light of the lessons learned from the SEA pilots, it can be suggested that priority attention in stakeholder

Table 8 Engagement of key stakeholders in pilot SEAs

Cases	Targeted stakeholders				Tools			
	Authorities	Academic groups	NGOs	Public	Interviews & surveys	Workshops	Advisory committees	Internet
Cambodia: SEA of the Tourism Sector	X					X		
China: SEA of the GWDS								
China: SEA of Guizhou Tourism	XXX	X	X	X	X	X		X
China: SEA of Hubei Road Plan	XXX	X	X	X	X	X		X
China: SEA for Dali Urban Master Plan	XXX	XX	X	X	XX	XX	XX	
Fiji: SEA of Tourism Development Plan	XXX	XX	XX		XX	X	XX	
Indonesia: Pilot SEA Ciayumajakuning	XX		X			XX		
Indonesia: SEA in Papua Province	XX	XX	XX		XX	XX		
Lao PDR: CIA for NT2								
Lao PDR: SIA for NT2								
Philippines: REA of Sewage Project	XX			XX	XX	XX		
Vietnam: SEA in Quang Nam	XX	X	X		XX	XX	X	
Vietnam: SEA for Hydropower Sector	XX					XX	XX	
Vietnam: SEA of Con Dao SEDP	XX				XX	XX		
Vietnam: SEA of Vinh Phuc SEDP	XX				XX	XX		
Vietnam: SEMLA pilot SEAs	XX			X	XX	X	X	

(xxx - detailed engagement; xx - significant engagement; x - some engagement; blank cell - no formally reported engagement)

MAIN MESSAGES DERIVED FROM THE COMPARATIVE ANALYSIS

As elsewhere, SEA systems in the Region are significantly shaped by environmental assessment traditions, prevailing features of planning and decision-making arrangements, and specific approaches to inter-institutional coordination. This study identified needs that should be addressed if the emerging SEA systems are to effectively achieve their goal of integrating environmental considerations into proposed PPPs.

The key factors that underpin the quality of SEA practices in the Region appear to be:

- Facilitating ownership of SEA by the planning and decision-making authorities;
- Suitable integration of SEA into planning processes that respects the

specific features of decision-making in the respective countries and facilitates undertaking SEA whenever a suitable opportunity for its application arises in the planning or decision-making process);

- Using SEA for analyzing environmental, social concerns or economic issues based on the needs of the decision-making authorities;
- Using simple and participatory assessment techniques that can operate even in situations of significant data gaps;
- Considering institutional arrangements for managing major side effects of proposed developments within SEA; and
- Enhancing quality of inter-institutional consultations during SEAs.

Chapter 3: Summary of Country Systems

This chapter reviews the country system for SEA development in China, Indonesia, Malaysia, Philippines Thailand, and Vietnam as well as the current applications in Lao PDR and other countries in the region. It focuses on the latest developments, features and areas for improvement.

SEA SYSTEM IN CHINA

Policy background

Commitments to establish SEA systems were contained in various policy documents in China in the mid 1990s, e.g. in China's Agenda 21 released in 1994; China's 21st Century Agenda on China Environmental Protection issued in 1995; and most recently in the Decision of the State Council on Implementing the Outlook on Scientific Development and Strengthening Environmental Protection issued in December of 2005 (Li 2007).

Since the mid 1990s, the practice of SEA in China has evolved through:

- the practice of regional environmental EIAs (R-EIA) for development of river basins, economic development zones, construction of new urban areas and reconstruction of old urban districts (Li 2007);
- EIAs of five-year development plans for large industrial firms (e.g. three iron and steel companies--Baotou, Taiyuan, and Maanshan--conducted EIAs for their eighth and ninth five-year development plans); and
- EIAs of mega-scale development projects such as Integrated Agricultural Development Project at the Three-Rivers Plain, the West-to-East Electricity Transmission Project, the West-to-East

Natural Gas Transmission Project, the South-to-North Water Transfer Project, and the Qinghai-Tibet Railway Project (Zhu and Ru 2008).

Zhu and Ru (2008) conclude that all these assessments identified impacts, sought to mitigate them and thus aimed to provide environmental safeguards. But they did not recommend major changes in the proposed projects to ensure their environmental feasibility. In addition, public participation was limited to experts selected by the responsible agencies, and decision-making processes were not open to the public.

Legal and regulatory framework

Work on a new EIA Law that would include SEA requirements began in 1998. It was approved in 2002 and became effective in September 2003. It applied environmental assessment (EA) to various spatial and sector-specific plans at the national and local levels. Spatial plans cover land use plans, plans for the development and utilization of river basins and sea waters and 'guidance' plans among the sector plans. Sector plans cover plans for industry, agriculture, animal husbandry, forestry, energy, water conservancy, transportation, urban construction, tourism and natural resources development.

Under China's EIA Law, *spatial plans* cannot be approved if they do not include EA Chapters or Statements, which must be prepared during the plan drafting and submitted together with the plan to a relevant authority for examination and approval. They should contain an analysis, prediction and appraisal of the environmental impacts of the plan or program and measures for preventing or

mitigating the unfavorable environmental impacts. Preparation of EA Chapter or Statement does not require solicitation of comments from relevant authorities or the general public.

Sector plans cannot be approved without submission and review of respective Plan-EIA Reports, which normally are prepared by externally hired specialists. Plan-EIA Reports should include: i) an analysis, prediction and appraisal of the environmental impacts that might occur if the plan or program is implemented; ii) measures for preventing or mitigating the unfavorable environmental impacts; and perhaps most significantly iii) conclusion of the Plan-EIA Report. The EIA Law requires consultations with interested institutions, experts, and the general public on the draft plan prior to its submission for approval. The finalized drafts of sector plans and their respective Plan-EIA Reports must be submitted for review by the relevant environmental protection department or other designated authority. The agency conducting the review of P-EIA Report must convene a review panel of representatives of the relevant departments and environmental experts. The SEA procedure concludes with plan approval and the relevant authority is obligated to consider both the conclusions of the Plan-EIA Report and the review inputs in decision-making.

Initial proposals for the China EIA Law by the State Environmental Protection Agency of China (now the Ministry of Environmental Protection, MEP) also included provision for SEA of policies, but these proposals were rejected due to objections from concerned government departments (Li 2006). However, MEP is trying to extend SEA to macro plans and policies, and to this end, organized an international workshop on "SEA in China"

(October 2007), which is reported to have laid a good foundation for new attempts to expand the scope of SEA application to all plans, policies, laws and regulations with potential environmental impacts.

Research and capacity building

Since 1995, there has been a large amount of SEA research in China and up to now, over 50 papers on SEA were published in the core academic periodicals (Bao, undated). To implement the EIA Law in August 2003, MEP (then SEPA) with the assistance of the World Bank and IAIA, organized a series of SEA training courses, which trained about 500 experts. MEP also identified a list of 155 recommended universities and research institutes to implement Plan-EIA. Additional SEA trainings were included in relevant donor programs, such as CIDA and Sida.

Key applications and cases

Several pilot SEA studies were undertaken in China before the passage of EIA Law in 2003 (e.g. Shangxi Coal and Electricity Development Strategy, Economic Structure Adjustment in Jiangsu Province and China Energy Strategy System).

In 2006 SEPA established a nationwide program of SEA pilots and experimental applications. So far, this program has focused on SEAs of general development plans (e.g. Inner Mongolia, Xinjiang, Dalian and Wuhan), Special Plans (e.g. Ningdong Energy and Chemicals Base, and the plan for developing key industries in the area surrounding the Three Gorges reservoir).

In addition, many other studies are being carried out at the provincial and municipal level. For example, in Shanghai Municipality, SEA has been applied to land-use, industrial development, energy and

transportation plans, wetland development and protection, and the plan for Developing Jinshan San Dao. In Liaoning Province, 30 SEAs were conducted in 2004 and 2005 (17

approved and the remainder still in preparation). In Sichuan province, because of its specific situation, the focus of SEA is on plans of water resource development.

Box 2 Key SEA applications in China

- Plan EIA of expressway plans: Jiangsu, Shanxi, Hunan, Inner Mongolia and Anhui, etc.;
- Plan EIA of harbor plans: Harbors of Shanghai, Yingkou, Qingdao, Dalian, Lianyungang, Zhoushan, etc. ;
- Plan EIA of urban development plans: Jiading, Songjiang, Jinshang, Lingang New City of Shanghai and Urban Development Master Plan of Dalian, etc.
- Plan EIA of urban construction plans: Track Traffic Plan, Inland Waterway Transport Plan, Power Industry Plan of Shanghai and Track Traffic Plan of Guangzhou, etc.;
- Plan EIA of land use plans: Qingdao, Shanghai, etc.;
- Plan EIA of industrial sector plans: Development Plan of Shanghai Chemical Industry Park, Development Plan of Hangzhou Bay Beian Chemical Industry Park, Shangdong Automobile Industry Sectoral Policy, etc;
- Plan EIA for socio-economic development plans: Inner Mongolia, Dalian, Wuhan, etc.

Source: YEPB and Sida 2009

Guidance and methodological support

To implement the EIA Law, MEP has issued several regulations including the Review of P-EIA Reports for Specific Plans and Measures for administration of Expert Pools for P-EIA Review.

Additionally, more than 13 provinces (cities and regions including Shanghai, Hebei, Inner Mongolia, Jiangsu, Shandong, Hubei, Shaanxi, Guangxi, Yunnan and Xinjiang) have issued P-EIA regulations or related documents (Li 2007). These regulations have stipulated the process, review methods, and financial resources of SEA taking into consideration local conditions. In addition, MEP has developed a series of technical guidelines, such as a trial version of Technical Guideline on SEA for Development Programs.

Also SEA regulations formulated by SEPA in 2004 still remain on trial at the time of writing. These include:

- Technical Guidelines for Plan Environmental Impact Assessment (issued on 11 August 2003);
- Scope of the Plans to Prepare the Environmental Impact Statements; and
- Scope of the Plans to Prepare the Environmental Impact Chapters or Statements.

Areas for further development and capacity building

A review of practical applications of SEA on the provincial level (YEPB and Sida, 2009) concluded that most P-EIAs unfortunately are prepared too late to effectively influence the planning process. Many P-EIA also follow the structure of the Plan-EIA report laid out in the provisional technical guidance instead of focusing on key strategic issues that are specific for each individual plan. The quality of P-EIAs is further constrained by limited sharing of data between planning teams and limited transparency of assessment methodologies.

MEP considers that future development of the SEA system in China requires further strengthening through capacity building and SEA legislation reforms (Li 2007). Planned capacity building focuses on the selection of P-EIA compiling institutes, establishment of an Advisory Commission of SEA, training courses for officials and professionals and elaboration of P-EIA technical guidance documents for the key industries. MEP plans to further develop SEA legislation through promulgation of Regulations on P-EIA and through stipulating arrangements for policy-focused SEAs in the next amendment of the EIA Law.

SEA SYSTEM IN VIETNAM ⁴

Policy background

The momentum for developing a SEA framework in Vietnam has been growing for a number of years, namely through the Comprehensive Poverty Reduction and Growth Strategy (2002), the National Strategy for Environmental Protection to 2010 and Vision to 2020 and Vietnam Agenda 21. These called for strategic-level evaluation and integration of environmental considerations in policies, programs, and plans (ICEM, 2006).

Legal and regulatory framework

The Law on Environment Protection (LEP) was revised in 2005 and came into force in July 2006. It mandates SEA for: national socio-economic development strategies, planning and plans; strategies and plans for development of sectors on a national scale; socio-economic development strategies and

plans of provinces or regions; plans for land use, forest protection and development; exploitation and utilization plans of other natural resources in inter-provincial or inter-regional areas; plans for development of key economic regions; and planning documents for inter-provincial river watersheds.

The LEP requires SEA to be undertaken concurrently with the formulation of the strategy, long-term plan or short-term plan (SPP) and that SEA reports must constitute an integral part of the proposed SPP. The general obligations for conducting SEA laid down in the LEP were further refined in the MONRE Circular No. 05/2008, which defines the SEA-related responsibilities of SPP proponents in detail and outlines the basic structure of SEA reports.

The LEP also stipulates that SEA Reports are to be appraised by review councils and that the results of the SEA report review shall serve as basis for the approval of the SPP. MONRE is charged with organizing SEA review councils for the SPPs approved by the National Assembly, the Government and the Prime Minister. Line ministries, ministerial level agencies and government bodies at various levels must set up SEA review councils for SPPs subject to their approval.

Pilot projects

Various ‘pilot SEAs’ were undertaken before the passage of new LEP. These include:

- SEA of Land Use Planning for Ha Long City in Quang Ninh Province;
- SEA of the Dai Tu District Social and Economic Development Plan in Thai Nguyen Province;
- SEA of the Ha Tay SEDP; and

⁴ Source: Dusik and Nam (2008). Status of SEA in Vietnam, unpublished material elaborated within this study.

- Integrated strategic environmental impact assessment of Port Developments in Ba Ria – Vung Tau Province.

The majority of these projects have been undertaken as ex-post assessments (i.e. as separate analyses undertaken after the finalization of the focal plan). In all of these

cases, a lack of legal imperative for SEA integration reduced their effectiveness and ability to influence the decision making process. Most of these assessments mainly used EIA techniques and focused on mitigation measures rather than strategic level interventions into the planning process (ICEM 2006).

Box 3 Recent SEA Pilots in Vietnam

- SEA of the Vinh Phuc Province Socio-economic Development Plan (SEDP) 2006-2010
- SEA of the Son Duong District (Tuyen Quang Province) Socio-economic Development Plan (SEDP) 2006-2011
- SEA of the National Power Development Plan IV - Hydropower sub-sector with a focus on impacts on biodiversity.
- SEA of the Quang Nam Hydropower Development Plan
- SEA of land use planning in key economic zone in the Northern Region
- SEA of industrial development planning in key economic zone in the Central Region
- SEA of socio-economic planning for the coastal corridor in the Gulf of Tonkin
- SEA of development plan for Thanh Thuy Economic Zone, Ha Giang
- Integrated land use planning in Vi Xuyen District, Ha Giang
- Land use planning integrated with environmental protection for Yen Thanh District, Nghe An province
- Land use planning integrated with environment for An Nhon District, Binh Dinh province
- SEA of plan for Southern Economic Zone in Phu Yen Province
- Xuan Phuong district in Phu Yen Province
- Integrated land use planning for Nhon Trach District, Dong Nai province
- Land use planning integrated with environment for Long Hai Township, Ba Ria-Vung Tau province
- SEA of Land Use Planning for Con Dao District, Baria Vung Tau Province
- SEA of Land Use Planning for Phu Quoc District, Kien Giang Province
- SEA of the Con Dao Socio-economic Development Plan (SEDP) to 2010 with a vision to 2020, and the Con Dao National Park Tourism Development Plan (2000-2010)
- SEA of the Hydropower Master Plan within the Viet Nam Power Development Plan IV

A larger number of SEA pilots were started in 2006-2007 for socio-economic development plans, land-use plans and hydropower planning. Most of these projects were supported by ADB, GTZ and Sida (SEMLA programme). Examples are listed in Box 3.

Guidance and methodological support

MONRE with the support of Vietnam-Sweden Strengthening of Environmental Management and Land Administration (SEMLA) Program has developed General Technical Guidance for SEA, which is designed for practitioners involved in SEA implementation. The Guidance has served as a basis for development of planning-specific applications:

- Specific Technical Guidelines on SEA

- for Urban Construction Planning;
- Specific Technical Guidelines for SEA in Industrial Planning; and
- Specific Technical Guidelines for SEA in Land-use Planning.

In 2008, the key government agencies that must undertake SEAs (Ministry of Industry, Ministry of Construction, Ministry of Investment and Planning, Ministry of Agriculture and Rural Development, General Department of Tourism) began to establish basic institutional mechanisms to implement and appraise SEAs in 2008. Initially, SEA application was constrained by a lack of clear and systematic planning processes and limited cross-sector coordination. However, since 2008 significant improvements have been made to facilitate inter-institutional coordination under various SEA capacity building projects on SEA launched by MONRE and key line ministries with support from Sida (SEMLA), GTZ, SDC, Danida, ADB and the World Bank.

Areas for further development and capacity building

In 2005, MONRE initiated a process of donor coordination and harmonization of activities to support the implementation of SEA requirements and build core capacities. For example, the SEA General Technical Guidelines have been used as a basic reference document in developing sector specific technical guidelines within various donor-supported programs. A multi-donor National SEA Training-of-Trainers Program has developed and delivered SEA courses in different sectors, using Vietnamese experts.

Despite progress, SEA knowledge and experience in line ministries and especially at the provincial level is only partly developed. Numerous capacity building

projects targeting line ministries are now underway (e.g. supported by SEMMLA, ADB, GTZ and Danida). Current support activities include various SEA training initiatives, e.g., within several universities. However, advanced capacity building is still limited by a lack of practical experience among local trainers. Strengthening their capacities will become a key priority. Further capacity building support is also needed to increase training coverage at provincial levels and in sectors that are not currently exposed to pilot activities.

For successful SEA implementation in Vietnam, it is critical that the first SEA pilots are successfully adapted to local capacities and planning contexts and cover a wide spectrum of planning levels and sectors. Targeted support activities in the next 2-5 years will be critical to assist capacity development in Vietnam.

EVOLVING SEA SYSTEM IN INDONESIA⁵

Policy background

Both Law no. 25/2004 on a National Development Planning System and the Mid-Term National Development Plan 2004-2009 call for careful consideration of environmental concerns and natural resources along with development planning. They also encourage development of various instruments and the capacity to facilitate this commitment to apply SEA in the context of development policy.

Legal and regulatory framework

The government recognizes the importance of SEA, and wants to ensure that the

⁵ Source: Nurlambang, Setyabudi & Dusik (2008) Status of SEA in Indonesia, unpublished material elaborated within this study

relevant authorities and the public do not see SEA as an extra obstacle to approval of policies, plans and programs, but rather as an iterative tool which is consistent with the principles of sustainable development and supports sound decision-making.

An Inter-Ministerial Working Group, comprising Ministry for Environmental Affairs (MOE), National Development Plan Agency (Bappenas), Ministry of Home Affairs (MOHA) and Ministry of Public Works (MOPW), was established in 2006-2008 with the support of Danida's Environment Support Program. The working group was given the tasks of developing an umbrella policy, general guidelines, and supporting instruments for SEA application and information dissemination.

As of March 2009, a proposal for a Presidential Instruction on SEA Application has been prepared. This proposal calls on all related government institutions, sector, regional and local, dealing with natural resource use and its environmental consequences, to explicitly take SEA into consideration in developing any of their development plans or policies.

In order to facilitate future SEA practice, MOE has also drafted a Regulation on Guidelines for SEA which focuses on regional and sector development plans and policies. The regulation calls for assessment of social, cultural, and economic issues; undertaking of SEA at the earliest stage of any developing plan and policy; and reporting on all SEAs as part of the development plans or policy documents.

It also states that MOE might provide technical assistance for applying the SEA. However, since SEA should use tailor-made methods, the regulation encourages each

planning agency to develop its own SEA methods as long as they fulfill SEA principles. For instance, Bappenas is preparing recommendations on utilizing the SEA guideline and methods for improving development policies within the next Mid-term National Development Plan 2010-2014. MOHA is also preparing its own regulation on institutional building for SEA application within the local development plan and local spatial planning mechanism.

Pilot projects

Since 1998, MOE has supported 13 pilot projects with SEA elements using support provided within national and local budgets. The pilot assessments listed in Box 4 represent the most important SEA experiments in the country.

Priorities for further development and capacity building

The capacity for wide application for SEA in Indonesia is currently not available. Initial training courses to build SEA skills, especially for central and local government officers under the supervision of MoE and MoHA, are underway.

For example, Danida has supported regional workshops on SEA for local development plans and visits by senior government executives to Denmark, the Netherlands, Malaysia, and China to learn from their SEA experience. NESO (Netherlands Education Support Office) has in combination with Indonesian and international institutions developed training on SEA for spatial development plans for local government officers.

Box 4 Key SEA pilot projects in Indonesia

- Environmental Impact Study of Policy, Plan and Program of Downtown Yogyakarta, 2000- 2001
- SEA Cipamatum (West Java), 2001
- SEA for Water Management Policy in Java Island, 2003
- SEA for Puncak-Cianjur Local Master Plan, 2003
- Initial SEA for Road Network in West Sumatra, 2003
- SEA for Depok-Bekasi of Local Master Plan, 2004
- Building for Decentralized Natural Management on district level in Laut, Kutai Kartanegara, Pesisir, Bolaang Mongondow, Wonosobo, Temanggung and Banjarnegara, 2004
- SEA Application in Region for Sustainable Decision Making Process: Case Study Yogyakarta and Bandung, 2005
- National Urban Environment Strategy for Western Java (West Java, DKI Jakarta & Banten), 2005
- Critical Environmental Pressure Points Project in Nanggroe Darussalam (Besar, Banda Jaya), 2006
- SEA Application in National Spatial Planning 2005-2006
- SEA of Ciayumajakunning watershed planning (ongoing since 2007)
- SEA for Urban planning of Padang city (West Sumatra) 2007
- SEA for Spatial Planning in Papua Province (2008)

Strategic capacity building for decision makers in national and regional institutions needs to be conducted prior to adoption of the Presidential Instruction on SEA (expected late 2009 or in 2010). However, as new development planning for all government levels should be finished by 2010, SEA applications may not immediately influence decision making. The government of Indonesia is looking for donor assistance to apply SEA during the current planning cycle.

Summary

As of March 2009, the global economic crisis appears likely to constrain adoption of the Presidential Instruction on SEA. The main concerns relate to the limited capacity for application of SEA and concerns that new SEA requirements could excessively complicate planning efforts⁶.

⁶ Laksmi Wijayanti, email correspondence , 15 February 2009

EVOLVING SEA SYSTEM IN MALAYSIA

Policy background

The National Policy on the Environment (2002) seeks to integrate environmental considerations into development activities and decision-making processes. Article 3.1 stipulates that 'environmental inputs shall be incorporated into economic development planning activities, including regional plans, master plans, and structure and local plans'. The Policy suggests various means to this end, such as natural resource accounting and economic valuation of environmental and social costs and benefits.

It implicitly refers to SEA in stating that: 'environmental considerations will be integrated in policies, programs, plans and project formulation as well as implementation, through a comprehensive assessment process, taking into account social, ecological and health effects'.

An explicit reference to SEA is contained in the Ninth Malaysia Plan for 2006-2010

(2006). The environmental chapter declares that: 'environmental planning tools such as environmental impact assessments (EIA), strategic environmental assessments (SEA), cost-benefit analysis, market-based instruments and environmental auditing will be increasingly applied in evaluating and mitigating environmental impacts on development activities.'

Legal framework

The Town and Country Planning Act (1976) was revised in 2001 and now includes stronger environmental management objectives and stipulates that EIA be integrated into plan formulation processes.

Guidance

In 2003, the Town and Country Planning Department published a manual on "SEA in Development Plans: A Step By Step Guide". This is aimed at personnel undertaking SEA for state structure plans and district local plans.

Key applications and cases

The Town & Country Planning Department has established an 'Environmental Task Force' and initiated a number of pilot SEAs on local plans to test and demonstrate various SEA approaches in Town & Country Planning practices (Halimaton 2007). Key SEAs undertaken so far within this process include:

- SEA Pilot Project in Kawasan Sekitar Paya Indah
- SEA in Negeri Selangor
- SEA in Daerah Manjung
- SEA in Daerah Kinta
- SEA in Daerah Melaka Tengah
- SA Pilot Study in Daerah Kuala
- SEA in Negeri Perak;
- SEA in Daerah Hulu Perak;
- SEA in Daerah Perak Tengah; and

- Beaufort & Kuala Penyu SEA.

In addition, three pilot SEA studies for the Natural Resources Water Study 2000-2050 are being currently conducted under auspices of Biodiversity Component of Malaysian-Danish Environmental Cooperation Program. Once these are completed, the Economic Planning Unit (EPU), Prime Minister's Office, will commission a SEA policy paper, based on the pilot study experience. The paper is expected in November 2008 (Grenier, 2008).

Areas for development and capacity building

Currently, the Town and Country Planning Department is undertaking a capacity building initiative on sustainability assessment in land use development plans. It also conducted SEA training in 1999. Further SEA courses were conducted in Sabah in 2004 under a DANIDA-funded project on Integrating Environmental Issues into Spatial Planning-Local Plans and since 2007 have been promoted by the Malaysian-Danish Environmental Cooperation Program through a national workshop and as part of biodiversity mainstreaming.

The potential application of SEA to sector plans and its possible use as a tool to mainstream environmental concerns into policies, plans and programs is currently being assessed by the Economic Planning Unit (EPU) in the Prime Minister's Office through three Danida-supported pilot SEAs focused on an existing Water Master Plan.

The main challenge constraining development of SEA in Malaysia appears to be a lack of a specific institution to oversee this process at the central agency level. There is also a need to better define the role of ministries and agencies in undertaking SEA. Since 2008, the Economic Planning Unit (EPU), Prime Minister's Office, has

supervised initial exploratory work on SEA demonstration, focusing on a project for water policy. It also intends to commission a policy paper on SEA to describe options for institutionalizing SEA in Malaysian planning processes, when this work will begin was unclear at the time of writing.

As presently understood, the promulgation of SEA in Malaysia could be done either through the operational activities of the EPU or by establishment of a SEA task force in a central agency (such as the EPU) or in other line ministries. Capacity building on SEA is also considered to be a priority.

EVOLVING SEA SYSTEM IN PHILIPPINES⁷

Policy background

Philippine Constitutional provisions on the environment state that 'the State shall protect and promote the right to health of the people and instill health consciousness among them'.

There are also implicit references to SEA in Government commitments to the Millennium Development Goals on environmental sustainability, as well as in the Philippine Agenda 21 and Medium-Term Philippine Development Plan (2004-2010). These call for an overall framework to integrate environmental, social and economic considerations into the country's broad national development policies, programs and plans (Mercado, 2007).

Legal and regulatory framework

In 1995, programmatic EIA was introduced in Philippines to assess multiple or co-

located projects in industrial sites and projects initiated by programs like energy or public infrastructure in contiguous or dispersed areas. These were applied only on a case-by-case basis, e.g., on public highways and donor-assisted small infrastructure projects, and were still mainly project- rather than plan-oriented. The whole system was considered "reactive" rather than pro-active in prior assessment of alternatives of the overall planning (World Bank 2006).

The need for SEA was first proposed in 1996 in a concept plan for its adoption in the Philippines. In 2003, the revised procedural manual for EIA also outlined a procedure for SEA of 'policy-based undertakings'. This framework comprised several steps, with public involvement throughout but it was never fully implemented mainly due to a lack of technical capacity and resources at the Department of Environment and Natural Resources.

Some elements of SEA processes are also present in various environmental laws such as the Local Government Code, which calls for comprehensive land use planning at the municipal and provincial levels; the Clean Water Act, which also requires the conduct of Programmatic EIA for area-based development projects; and the Clean Air Act, which provides for the establishment of local air quality management. Also, the Solid Waste Management Act, National Integrated Protected Areas System, and Indigenous People's Rights Act mandate the enforcement and adoption of area-wide, sector and regional environmental assessments to different levels of executing agencies. However, all of these para-SEAs are still dependent on the capacity of the mandated agencies to fully apply the process in their decision-making processes. At the moment, the application of these SEA elements is yet to be fully and adequately

⁷ Source: Mercado & Dusik (2008) Status of SEA in the Philippines, unpublished material elaborated within this study

applied.

Key applications and cases

The first example of a planning process with SEA elements in the Philippines was the formulation of the Palawan Sustainable Development Act of 1992 which used an assessment process to define and delimit the extent of development activities, plans, projects and initiatives within the province. Other environmental codes at the provincial level have been subsequently approved by local government units using the Bohol experience as a model. The latest is Zamboanga del Sur, Sarangani, and Tawi-tawi (Mercado, 2008).

A similar process was used e.g. for formulation of the Bohol Environment Code of 1998 which used an assessment process to define vision, mission, goals, and strategies for the future development of an island close to Cebu for meeting the future needs of ecotourism and industrial development (World Bank 2006).

Examples of other assessment-based planning can be found in various types of protected area management plans under the Act on National Integrated Protected Area Management Systems (Mercado, 2008). These include programmatic EIAs that are being prepared for various wetland deltas in the Philippines and master planning for Cebu and Metro Manila.

A World Bank (2007) study also discovered early applications of SEA in various initiatives on the regional environmental assessment (REA) of programs funded by international agencies in the Philippines. REAs have been applied to river basins, coastal zones, and provincial or municipal areas in the course of formulating environmentally sustainable development plans, programs, and/or strategies. An

example of such approach is the World Bank support to Manila Third Sewerage Project which used a REA process to outline environmental baseline and overall implications of proposed multiple waste water treatment projects. The REA was heavily based on stakeholder consultations and suggested detailed issues be taken up in environmental management plans during implementation of this project.

Expected future developments

A comprehensive proposal for a SEA framework is contained in the draft Environmental Assessment Act. This draft legislation, pending in the Philippines Congress since 2005 includes SEA requirements for proposed PPPs that involve multi-component, multi-sector proposals or that involve several small scale activities or subprojects.

At the time of writing, this legislative proposal was still pending in the Philippines Congress without a clear timeline for its adoption. CIDA has therefore developed 'A Discussion Paper for a Strategic Environmental Assessment (SEA) Policy in the Philippines' (2007) which suggests adopting SEA frameworks either through legislative action, e.g. proposed Environmental Impact Assessment Act, or through an executive order by the Philippine President. This working paper has been presented to key national government agencies, including representatives of Congress, in coordination with the assistance provided by the World Bank and ADB to the Government of Philippines on the harmonization of environmental assessment (Mercado, 2008).

EVOLVING SEA SYSTEM IN THAILAND⁸

Policy background

SEA is stipulated in the 10th National Economic and Social Development Plan (2007-2011) which calls for 'developing the SEA system for public policy making or planning'. SEA is also promoted within an Environmental Quality Management Plan for 2007-2011.

In 2003, the Ministry of Natural Resources and Environment (MONRE) through its Office of Natural Resources and Environment Policy and Planning (ONEP) started to revise and improve the EIA system and recommended that the SEA should be used as a tool to enhance environmental management in Thailand.

Additionally, the National Environment Board (NEB) in 2004 recommended developing arrangements for undertaking SEA in parallel with PPP formulation at regional and sector levels as a way of reducing conflict and encouraging sustainable development. To implement this recommendation, a subcommittee was appointed to develop SEA systems for various planning domains.

SEA guidance

ONEP SEA guidelines consider three different models for conducting SEA: (a) integrating environmental considerations into the formulation of territorial development plans; (b) environmental appraisal for flexible reviews of proposed sector-based plans; and (c) EIA-based processes for proposed mega-projects.

The review of these models suggested using

one approach with common procedural elements that would be flexibly applied to the elaboration of proposals but with different levels of detail depending on the nature of specific proposals. The recommended SEA approach includes screening, reviewing secondary data, scoping, data collection, analysis and appraisal of the proposed plan; development of alternatives to the plan; making recommendations in line with the precautionary principle; proposals for monitoring and evaluating the plan implementation; submission of SEA report to decision making and ex-post evaluation of the implemented plan.

The proposed framework applies to sector plans and mega projects for agriculture, mining, transportation, industry, energy and zoning and town planning. It also applies to development plans in provincial areas and to major planning processes in areas designated for environmental protection, pollution control, conservation or cultural heritage. The whole system is currently subject to testing through three pilot SEAs and it awaits formal adoption.

Key applications and cases

An independent SEA comparing the environmental and socio-economic impacts of the different shrimp farming systems (2001) was undertaken to assist the Swedish International Development Agency (Sida) to decide whether to support this industry (Lindberg & Nylander 2001). The project however did not have a capacity building component and was largely undertaken as an expert assessment.

Ongoing SEA pilots include "Strategic Environmental Assessment in Upper Southern Seaboard Area of Thailand", and "Strategic Environmental Assessment in Rayong Province" (Karnjanareka& Yootong,

⁸ Based on Karnjanareka& Yootong (2007) and Paranan (2008)

2007).

Areas for further development and capacity building

Despite the lack of a legal framework, a number of SEA capacity building initiatives have been undertaken. This includes a series of SEA training courses organized by the Thailand National Institute of Public Health and a SEA workshop organized by the Faculty of Environmental and Resource Studies at Mahidol University with support by the GMS EOC in March 2007.

Human and institutional capacities for SEA in Thailand are constrained by the limited practical application of SEA. Significant capacity building therefore will be required within MONRE and other sector planning agencies (e.g. in the energy, transport and tourism sectors). This could be facilitated by pilot projects to develop SEA experience, trial methods in local planning contexts and to show the benefits of SEA for sustainable planning and development ICEM (2006).

Lao PDR⁹

Policy background

The National Strategy on Environment to the year 2020 and Action Plan for the year 2006-2010 identifies as a priority “the development of policies, strategies and legal frameworks to manage the environment, conserve natural resources, and to take measures to prevent the adverse impact of natural phenomena.” In addition, Action Plan priorities include: reform of institutions to ensure effective environmental management and

monitoring; and improved environmental and social assessment for development projects. While these statements show government commitment to strengthening environmental assessment and management systems, it is currently unclear if this extends to SEA.

Legal and regulatory framework

Lao PDR currently has no legal framework for SEA or clear policy commitment to adopt this process. Correspondingly, human and institutional capacities for SEA in Lao PDR are limited.

Key applications and cases

The first pilot SEA projects were World Bank and ADB supported assessments of the Nam Theun II Hydropower Project, which focused on cumulative environmental and social impacts.

A comparable process was the ADB-funded cumulative impact assessment (CIA) study of the effects of multiple hydropower expansion on water supply, irrigation, agriculture, fishery, forestry, conservation, and local communities in the Nam Ngum River Basin, central Laos (1.6 million ha). This assessment was required by ADB as part of its investment strategy in the energy sector and for assisting Lao authorities with regional planning.

Areas for further development and capacity development

Given the current status of SEA development in Lao PDR, capacity building efforts focusing initially on general awareness raising and introductory level training for relevant government staff is needed.

⁹ Source: Dusik (2008) Status of SEA in Lao PDR, unpublished material elaborated within this study.

EXPERIENCE IN OTHER COUNTRIES WITH FIRST SEA EXPERIMENTATIONS

Although neither Cambodia nor Fiji has a legal framework for conducting SEA, pilot projects have been implemented in both countries through donor support. Examples are the SEA of the Tourism Sector, conducted in Fiji in 2003 and in Cambodia in 2008.

SUMMARY

SEA development in the Region can be broadly divided into the following clusters of countries:

- China and Vietnam are countries with well developed SEA systems;
- Indonesia is rapidly developing a SEA framework;
- Malaysia, Thailand and Philippines are gradually developing SEA frameworks that await formal adoption; and
- Lao PDR, Cambodia and Fiji do not have legal requirements but have undertaken SEA pilots with donor support.

All other transitional or lower-income countries in the EAP Region remain without significant nationally driven or donor supported SEA initiatives.

Chapter 4: Overview of Selected SEA Case Studies

This chapter presents an overview of the fifteen SEAs which were selected and reviewed in this study. It examines the purposes, focus, implementing agency, approach, data, and key findings and recommendations of each case.

CAMBODIA: STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE TOURISM SECTOR (2008)¹⁰

This SEA aimed to provide the Government of Cambodia with information on environmental implications of key initiatives for promoting tourism. It focused on four types of documents: i) the draft Tourism Law; ii) the draft national ecotourism policy and strategy; iii) tourism development plans for the northeast triangle; and iv) tourism strategy and plans in southern coastal areas.

The draft Tourism Law and draft Ecotourism Policy and Strategy have not been formally endorsed by the Government and the SEA offered an opportunity to raise any environmental concerns that may have been overlooked to date. The development plans for the northeast triangle and southern coastal areas are at an early stage and the SEA identified specific environmental issues and measures to mitigate them.

The nature and extent of main environmental impacts (and, where possible, indirect impacts) were identified using simple tables and expert judgment of SEA team members. The SEA did not explicitly analyze institutional arrangements for managing environmental issues related to

tourism but it provided several recommendations on strengthening institutional cooperation and suggested innovations in administrative and economic instruments (e.g. national eco-label for tourism, environmental criteria for tourism licensing and environmental guarantee fund for cleanup and rehabilitation as a result of tourism-related activity).

For this SEA, budget restrictions did not allow the organization of extensive consultations but a minimal level of public input into the process was achieved through a series of training and consultation workshops.

CHINA: PRELIMINARY SEA OF THE GREAT WESTERN DEVELOPMENT STRATEGY (2005)¹¹

The aim of this SEA was to outline the environmental risks of the Great Western Development Strategy (GWDS). It reviewed possible modifications of this strategy, and measures to mitigate major strategy-related environmental effects.

The SEA was commissioned by the State Environmental Protection Administration (SEPA) as an ex-post assessment to provide information for negotiations with other line ministries on the GWDS, which had extremely long-term perspective and broad scope. SEPA used the SEA to identify harmful environmental consequences that may require modifications by the relevant authorities and to test the effectiveness of SEA as a decision support tool for large-scale policies and strategies.

¹⁰ Source: EOC GMS (2008) and Rachamandran (2008)

¹¹ Source: Li Wei (2005) and Li Wei (2006)

The SEA focused mainly on impacts of proposed key GSWD policies for land-use and resource planning. Specific issues addressed included: water shortage and over-exploitation; land degradation; forest deterioration (illegal logging and fuel wood collection); pollution (soil, water, air) from industrial emissions and municipal wastewater and solid-waste; and loss of biodiversity and ecosystem services.

The SEA relied mainly on calculations of environmental quality and pollution indexes to compare environmental issues in key provinces, impact matrices, case examples to illustrate potential impacts and elements of scenario analyses. In order to illustrate some major impacts, the SEA also included more detailed case examples of impacts of hydro-power generation in Qinghai Province and tourism developments in Guizhou Province.

The SEA did not explicitly address institutional frameworks for managing environmental issues associated with developments in the western regions of the PRC.

The case for increasing public participation and stakeholder dialogue was briefly explored within the SEA report, but no formal mechanisms for public participation were established within the SEA process.

CHINA: SEA OF TOURISM DEVELOPMENT IN THE GUIZHOU PROVINCE (2007)¹²

This SEA aimed to analyze the impacts of the Provincial Tourism Master Plan (2002) and related policies, plans and programs with a special focus on the Guizhou Rural Tourism Development Plan (2006). It was undertaken for the Guizhou Tourism Administration by external consultants

hired by the World Bank.

The SEA addressed the following issues:

- Environmental impacts: ecology and biodiversity; landscape and visual impacts; solid waste management; water quality; carrying capacity and visitor flow; and other effects and linkages (such as zoning and planning of protected areas; traffic and transport; public infrastructure);
- Cultural heritage impacts: physical cultural heritage damaged or destroyed; intangible cultural heritage damaged or altered;
- Socio-economic impacts: economic benefit and living standards, community participation and marginalization, traditional values affected.

Various impacts were determined and qualitatively analyzed through professional expert judgment and stakeholder consultation.

Three additional scenarios were identified as possible alternatives to the implementation of the master plan: business-as-usual without implementation of the master plan; high growth scenario; and controlled/low growth scenario. Impacts of these scenarios were compared with those of the master plan.

SEA did not explicitly address institutional issues. However, stakeholder consultations during the SEA pointed to numerous problems in inter-departmental cooperation on issues such as protection of nature reserves and scenic areas, deforestation due to infrastructure construction without proper planning, and poor private sector regulation that does not prevent illegal and uncontrolled construction. SEA

¹² Source: ERM (2007)

recommendations therefore partly focused on strengthening inter-departmental coordination and capacity building, especially technical expertise in heritage protection and planning, including carrying capacity assessments for sensitive and popular sites.

The consultation process included interviews with government agencies and various contracted or independent consultants, and formal workshops with provincial and local government authorities during review of the SEA outcomes and with local community representatives from proposed project villages.

CHINA: STRATEGIC ENVIRONMENTAL ASSESSMENT FOR HUBEI ROAD NETWORK PLAN (2008)¹³

The SEA aimed to identify significant environmental and social impacts of the proposed Hubei Road Network Plan. Since this plan had been approved and construction activities already started, the SEA recommended mitigation measures and institutional adjustments needed to address adverse environmental and social impacts. It also provided input on a major highway project that sought support from the World Bank, and highlighted environmental and social issues to be considered in EIAs of specific expressways to be implemented as part of the plan.

The SEA was commissioned by The World Bank and conducted by national and international consultants. A scoping workshop was held with the relevant authorities to prioritize the effects and focus subsequent analyses. The final workshop

discussed the draft SEA report with the Hubei Provincial Communication Department and all stakeholders. The process also provided the possibility to submit comments on the SEA report via Internet.

The following impacts were assessed:

- Air: CO₂ and NO_x emission intensity in the road network;
- Energy: energy consumption of road transportation;
- Climate factors: greenhouse gas emission in the road network;
- Noise: transport noise in the road network;
- Ecological issues: land takes and ecosystem loss, biodiversity, mineral resources, geological disasters, surface water;
- Social-economic issues: regional socio-economic impact, resettlement, development of relevant industries, ethnic minorities, cultural relics; and
- Road safety: traffic accidents, deaths and injured and economic losses.

Various forecasting methods and stakeholder consultations were used to predict and evaluate impacts. The SEA team noted that access to good data, especially time series data, was a challenge. Even if data existed, it was not commonly shared, even within the same institution.

Three transport development scenarios were established assuming various traffic flows, transport structure and mode of transport to highlight the uncertainties regarding economical, social and environmental effects of the Hubei Road Network Plan.

Stakeholders were engaged through an inception workshop that agreed on the SEA work plan. Interviews with key authorities

¹³ Source: Nankai University and Econ Pöyry (2008a) and Nankai University and Econ Pöyry (2008b)

were used to obtain baseline information, to verify baseline analysis and to identify priorities and scenario development. Telephone, e-mail and fax surveys were used to identify priority concerns of NGOs, transport service providers and transport service users.

SEA included an institutional analysis of Hubei Provincial Communication Department's capacity to carry out the SEAs and EIAs and to implement environmental management (EM) of road projects including information systems and arrangements for working with other relevant organizations. A consultation workshop was held to discuss institutional issues where it was noted that stakeholders were not really interested in institutional frameworks. During the consultations, most interest focused on the various effects of the plan, not on how institutions interact or are organized.

CHINA: SEA FOR THE DALI URBAN DEVELOPMENT MASTER PLAN (2008)¹⁴

In 2007, Dali Municipal Government commenced the revision of its existing urban development master plan and simultaneously commissioned SEA for the master plan revision. The purpose of the SEA was to assess the proposed urban development objectives, population and territorial expansion, spatial layout, and planned industrial developments in the municipality. Due to delays in the formulation of the master plan, the SEA eventually ended up analyzing impacts of possible development scenarios and providing related recommendations to Dali Municipal Government and the planning team.

The SEA process was financed by the Dali municipality and carried out as an independent assessment that ran in parallel to plan elaboration. Additional support was provided from a provincial Sida-sponsored project.

A mechanism for information sharing and collaboration between the planning authority, planning team and SEA team was developed under the auspices of Dali Prefectural Government. This arrangement requested the SEA team to regularly update the other two parties and to provide policy recommendations for the master planning process and suggestions for key planned infrastructural projects in the study area.

The pilot focused on environmental, social and economic issues: e.g. biodiversity, landscape, land use, water resources, air, domestic solid waste, GDP, industrial structure, minority cultures, etc.

For each of these issues, trends were analyzed without the plan and with the proposed plan options. This was supplemented by analyses of carrying capacity for key water and land ecosystems. The SEA used available data, on-site investigations, questionnaires, workshops, expert consultations and judgments, matrices, SWOT analysis, GIS and scenario building.

An advisory committee was formed comprising representatives from Dali prefecture and municipality governments, people's congress and local experts. Four workshops were held to review the SEA approach and methodology with international, national and provincial experts. Additional meetings with government and plan authorities were organized to discuss opportunities for optimizing some key planned projects. The SEA also tried to canvass opinions from

¹⁴ Source: Yang et al (2009)

local citizens and tourists through interviews and questionnaires.

Based on the outcomes obtained, the SEA suggested changes to provincial and national policies that encourage expansion of the Dali municipality. It proposed to develop Dali instead as a regional hub that facilitates developments in satellite municipalities. To this end, SEA suggested a number of policy and institutional measures that should be taken, such as: limiting new industrial developments in Dali and encouraging industries to move to surrounding municipalities instead; involving other municipalities in integrated river basin management; and building up an integrated coordination mechanism for renovation of neighboring urban centers involving various government departments of urban planning, construction, environment and culture.

The SEA also provided specific suggestions on proposed infrastructure projects in the study area and on the relevant EIAs that will need to be performed for these projects.

Fiji: SEA OF TOURISM DEVELOPMENT PLAN (2003)¹⁵

This SEA aimed to inform the mid-term review of the Tourism Development Plan in 2003 by assessing the environmental and sustainable development impacts of the current plan. It was expected to help the Ministry of Tourism and its partners in planning for sustainable development, to guide future projects and to set conditions on financial support for tourism development in Fiji.

The SEA was initiated by the WWF and ADB and its modalities were agreed upon in A Memorandum of Understanding

between WWF and the Ministry of Tourism. It was carried out by comparing current environmental, social and economic baselines and likely trends under the plan against 28 cross-cutting sustainability objectives. These objectives were determined through consultations with the Advisory Group established to supervise the assessment.

The likely social and environmental impacts of the plan were determined qualitatively through a matrix relating key elements of the plan against SEA-identified sustainability objectives. The matrix was supplemented by a description of the most important environmental concerns and case studies of good practice to environmental mitigation and enhancement from Fiji and abroad. The availability of literature and knowledgeable individuals provided good insights into environmental states and pressures. Relevant up-to-date information was harder to obtain on many key social and economic questions.

The SEA implicitly addressed many institutional issues. The SEA team noted that in Fiji policies often are not implemented, so they assumed that adopted laws or regulations are not automatically enforced. The document provided suggestions for building capacities for implementation of recommendations formulated during the SEA.

Stakeholder engagement was arranged through the formation of an Advisory Group which had an overall responsibility for reviewing and guiding the major activities of the project team. The Group included representatives of key agencies involved in the SEA and met three times during the assessment. In addition stakeholder interviews were used to obtain information and test ideas. However,

¹⁵ Source: Levett and McNally (2003)

industry stakeholders were not as involved as the SEA team had hoped.

INDONESIA: SEA PILOT STUDY AT CIAYUMAJAKUNING, WEST JAVA (ONGOING SINCE 2007)¹⁶

This SEA pilot has an implicit objective of improving multi level and inter-regional water resource governance. It aims to provide inputs into formulation of water resources policies for a region of 5450 sq km with a population of 6.2 million. The SEA also aimed to develop stakeholders' capacity to understand and undertake a dialogue on water resource management issues.

The SEA was initiated by the Ministry of the Environment and DANIDA in order to explore the applicability of SEA for the Indonesian situation. Although activities were interrupted after three months, it provided comprehensive information on key environmental issues. The process will restart in 2009.

Based on stakeholder consultations, the SEA initially focused on three sets of issues: hydrological and geo-hydrological conditions, water use and conservation, and water discharge and recharge. These issues were analyzed through data collection and rapid assessment in the field. The expert team then reformulated or reconfirmed these issues and presented them at a workshop. The conclusions of this workshop were consolidated in a draft SEA report which was disseminated through various seminars.

Stakeholders participating in identifying relevant issues and evaluating the draft assessment through two workshops included the Coordinating Body for

Ciayumajakuning region which is responsible for organizing and harmonizing inter-region policies, plans and operations; a forum of 15 councilors from relevant municipalities; and concerned environmental NGOs.

INDONESIA: SEA FOR SPATIAL PLANNING IN PAPUA PROVINCE (2008)¹⁷

The SEA was initiated by Papua province, commissioned by the World Bank and undertaken by a consortium of local NGO and international consultants. The overall objective of the SEA was to assist the province in developing a spatial plan by assessing different development scenarios.

SEA team members participated in numerous meetings where Papua's development plans and spatial plans were discussed with local government officials, international and local NGOs and the private sector. This facilitated the linkage of the SEA with activities of other organizations involved in spatial planning.

However, the SEA team was unable to agree with some stakeholders on recommendations for adjustments of future planning and on decisions relating to the plan. The SEA, therefore, is best seen as an initial step in this process, and the SEA team considers that additional SEA steps should be taken to provide for a series of decision-making workshops based on prepared visual materials.

The SEA focused on the development of scenarios reflecting different priorities as follows:

- Economic: mining, logging, oil palm, industrial timber plantations, agriculture, roads, air and sea transport, fisheries,

¹⁶ Source: Kuswantojo (2008),

¹⁷ Source: Sekala et al (2008)

electricity, telecommunications, tourism and trade;

- Social: alleviating poverty, health, education, food security, sanitation, improved welfare and rights of indigenous Papuans; and
- Environmental: global warming and climate change, deforestation, peat conservation, watershed management, and marine and terrestrial conservation.

The spatial plan was digitalized through GIS. Assumptions for spatial and sector development were identified and visually portrayed in maps. On this basis, four main development options were selected. For each of the proposed options, a business as usual scenario and a sustainable development scenario were developed.

The SEA team attempted to foster stakeholder engagement within the SEA process. The pilot SEA included training on GIS and scenario building via an internship program. A comprehensive stakeholder analysis was conducted based on a questionnaire survey of 40 relevant federal and state authorities, parliamentary bodies, businesses, NGOs, churches, academic organizations, media and donors.

Consultations with key stakeholder groups were used to identify social priorities (such as cultural and religious concerns, improved health and education facilities, and acknowledgement of traditional land rights), to develop scenarios for spatial development and to assess the effect of scenarios.

Institutional constraints were not analyzed but the SEA team noted that, ideally, these should also be addressed.

LAO PEOPLE'S DEMOCRATIC REPUBLIC: CUMULATIVE IMPACT ASSESSMENT AND STRATEGIC IMPACT ASSESSMENT FOR NAM

THEUN II HYDROPOWER DEVELOPMENT (2005)¹⁸

Earlier dams in the Lao PDR have had harmful social and environmental outcomes so the Government recognized that the Nam Theun II Hydropower project (NT2) needed to pay greater attention to minimizing environmental and social costs and compensating affected people. Two strategic assessments - Strategic Impact Assessment (SIA) and Cumulative Impact Analysis (CIA) - were undertaken with the support of the World Bank and ADB respectively.

Both assessments, unusually, were triggered by and part of a project-level EIA. As such, they were not necessarily customized to the decision making process for the NT2 project, and although the assessments were available they were not influential in this process. However, both studies provided valuable information on potential cumulative and trans-boundary environmental and social impacts relevant to future program decisions on hydropower development in Lao PDR.

Both studies considered the social and environmental implications of hydropower development beyond the NT2 project and incorporated sector development policies and strategies into their recommendations. They also reviewed the potential impacts of planned developments in non-power sectors (transport, irrigation, water supply/sanitation, forestry, fisheries, mining, health, education, conservation, poverty alleviation and protection of minority groups) in both Laos PDR and regional countries.

The CIA was primarily a desk study by a team of international experts with diverse

¹⁸ Source: World Bank (2007b)

and specialized social and environmental skills, although an initial workshop was held with government Ministry staff and NGOs. It assessed regional impacts from the NT2 development, including: changes in water quality; regional health issues and health services; improved infrastructure including roads, electrification and water supply; threats to national conservation area caused by improved access and population increase in the surrounding area; and the institutional capacity to handle these issues.

The SIA assessed the sector-wide implications, including environmental and social impacts, of 22 planned hydropower developments within Lao PDR over a 20 year period. It relied on an earlier study of the potential impacts of these planned developments in providing generalized qualitative assessments of their potential environmental and social impacts. It also provided a brief qualitative consideration of alternative sources of energy and alternative programs for developing the country's hydropower potential. Finally the study provided a generic discussion of water-related and land-related environmental impacts.

As essentially desk studies, both assessments did not involve extensive stakeholder discussions. Local groups potentially affected by strategic decisions are unlikely to engage in such studies. In this context, the relevant stakeholders can be confined to governments and strategic partners, such as international funding organizations and some NGOs.

Both assessments made legislative and institutional recommendations. The CIA analyzed the institutional capacity to address key issues identified and recommended a number of institutional and management improvements and capacity

building activities for dealing with these cumulative issues. The SIA study provided general suggestions on improvements to the regulatory and administrative frameworks and relevant training. None of the recommendations were specifically tied to the cumulative effect of the program of hydropower projects.

PHILIPPINES: REGIONAL ENVIRONMENTAL ASSESSMENT FOR MANILA THIRD SEWERAGE PROJECT (2005)¹⁹

This regional environmental assessment (REA) was prepared to assess compliance of the World Bank proposed investments in Manila Third Sewerage Project with the relevant investment strategies and environmental management plans. The need for an REA reflected the potentially significant environmental benefits and risks of the proposed project that could be best addressed at the regional level.

The REA resulted in an Environmental Impact Statement written for the purpose of obtaining an Environmental Compliance Certificate from the Department of Environment and Natural Resources. The World Bank incorporated the proposed environmental management plan into the contract for the project implementation.

The assessment focused mainly on environmental issues such as noise, air pollution, water pollution, aesthetics, flora and fauna, health benefits and improvements in water quality. However, it also considered some wider issues such as project economic cost and benefits and environmental fees and sewage charges.

The assessment was carried out through ad hoc collection of relevant data and issues identified through consultation with the

¹⁹ Source: MWC (2005a) and MWC (2005b)

relevant stakeholders. Key issues identified related to costs, odor, lack of knowledge of the environmental and health impacts of poor sanitation or sewerage, traffic impacts and disruption during construction, and flooding impacts or benefits.

The REA also commented on weaknesses in institutional arrangements and provided specific suggestions on this matter. For instance, it suggested that the Dept. of Health should expand its activities with regard to promotion of adequate sewerage and sanitation facilities, and that a basic program and team be established to control environmental issues during the construction of proposed projects.

A comprehensive stakeholder engagement, consisting of two rounds of consultations, was undertaken. Before the scoping, the assessment team also undertook site visits to the impact communities and met their representatives to get familiarized with the socio-cultural environment. The public consultations included presentation of the key project activities and the results of the REA. These activities reportedly led to a considerable increase in community knowledge regarding sanitation, sewerage treatment, environmental impacts and project benefits.

VIETNAM: STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE QUANG NAM HYDROPOWER DEVELOPMENT PLAN (2007)²⁰

This ex-post SEA assessed hydropower proposals and other development activities in the Vu-Gia Thu Bon River Basin. It was undertaken on a plan approved in 2006 and prior to legal requirements for SEA under the Law on Environment Protection.

The SEA was not formally appraised by the government. However, its outcomes raised the interest of the relevant provincial chairman, and later triggered a formal review and adjustment of hydropower planning in the province.

The SEA considered the economic, social and environmental issues and their inter-relations. Following an extensive review and consultation with local stakeholders, the SEA team selected 15 economic, social and environmental themes of concern for detailed assessment. In the final stage, the SEA focused on several critical synergistic impacts of the plan for sustainable development in the basin, namely: (i) water supply; (ii) provincial economic development; (iii) ecosystem integrity; and (iv) ethnic minorities.

Trend analysis was the primary analytical tool used as proposed in the MONRE Technical Guidelines on SEA. It was undertaken using expert judgment, interaction matrices, and GIS-based exercises that incorporated elements of scenario analysis. This method is suited to situations where data deficiencies make it hard to quantify impacts. In these cases, the assessment used best- and worst-case scenarios as a basis for considering future environmental impacts. These scenarios were then discussed with the relevant government authorities, which in some cases led to additional information being provided which refined the assessment.

Analytical methods were accompanied by extensive consultation with national and local stakeholders at key stages in the SEA process --also building their capacity for follow up activities after completion of the SEA and for possible replication of the SEA approach for hydropower planning in other basins. Consultative and participatory methods used included: (i) use of a multi-

²⁰ Source: Dunn (2008)

sector working group as a focal point for engagement; (ii) stakeholder workshops during the phases of issue identification, baseline analysis and assessment of impacts and mitigation measures; and (iii) meetings and informal communications with senior leaders in the province and with staff from all relevant sector departments in the two main provinces.

The SEA made recommendations on: (i) area wide (e.g. river basin) and cross-sector mitigation; (ii) innovations to existing institutional arrangements; (iii) modifications to planning and management procedures; and (iv) specific project level design modifications, flanking measures and offsets.

VIETNAM: STRATEGIC ENVIRONMENTAL ASSESSMENT FOR SUSTAINABLE HYDROPOWER DEVELOPMENT (2008)²¹

This pilot SEA aimed to optimize the contribution of sustainable hydropower to national development through 2025 in Viet Nam. It was undertaken by international and local consultants for the Ministry of Industry and Trade with funding provided by the ADB Environment Operations Center for the Greater Mekong Subregion.

The SEA had a relatively broad focus, looking at sustainability as opposed to only environmental impacts.

The baseline analysis included status reports on energy/hydropower, environmental, hydrological and social/livelihood issues.

The SEA outlined five scenarios for sustainable hydropower development in the period from 2011 to 2025. The baseline scenario implements all hydropower

schemes as planned in Power Development Plan (PDP) VI. Three other scenarios have progressively lower levels of hydropower development, identifying which schemes to retain and which can be eliminated. The final scenario presumed no new development of hydropower schemes beyond those presently under construction.

The social and environmental impacts of planned hydropower schemes were identified and integrated into an overall analysis of the aggregate impact of schemes in each of the scenarios in different river basins.

The SEA considered impacts of thermal power generation, which is the only immediate alternative to hydropower development in the country. It also carried out an economic valuation of air pollution that would be caused by increased thermal power generation.

A trade-off analysis concluded the SEA process. It involved a week-long workshop on multi-criteria analysis which weighted various impacts. This workshop was attended by 20 participants from relevant agencies. Based on this, the SEA proposed a number of changes to the PDP planning process such as adjustments to planning procedures, internalization of external costs of power technologies in PDP optimization modeling, measures for mitigating social impacts and benefit-sharing schemes.

The SEA implicitly dealt with institutional issues. It concluded that as presently practiced, hydropower sector planning has many strengths but does not adequately take social and environmental factors into account, for instance, in decisions on the cost and design of hydropower schemes. It also provided various recommendations on the institutionalization of SEA and economic analyses in the strategic planning

²¹ Source: SEI (2008)

process for the power sector.

Stakeholder engagement was held through regular meetings of an inter-ministerial Core Working Group throughout the implementation of the SEA.

VIETNAM: STRATEGIC ENVIRONMENTAL ASSESSMENT FOR SOCIO-ECONOMIC DEVELOPMENT PLAN OF CON DAO ARCHIPELAGO (2007)²²

This SEA aimed to enhance consideration of environmental issues within the Socio Economic Development Plan of Con Dao Archipelago, which encompasses a national park and marine protected area. It focused on analyzing the environmental and health issues and effects which should be considered in the planned socio-economic development.

The SEA was carried out with GEF funding by the relevant provincial authority with technical support from UNDP and in partnership with WWF.

The Socio Economic Development Plan (SEDP) was approved prior to being subject to SEA. As the Plan could not be formally changed, the SEA broadened its original focus to provide recommendations for preparing future SEDPs and subsequent master plans.

The SEA considered only environmental issues, such as air, soil, water, biodiversity and landscape, human health, waste management, energy management, transport, tourism and climate and climate change. For each issue, baseline trends without the plan were analyzed and the likely effects of existing development orientations were evaluated against these trends.

The evaluation was based on expert judgments and addressed the following questions:

- How will the current development directions affect the key drivers of the critical environmental issues?
- Is the implementation of main development directions causing any new environmental risks?
- Would the implementation of the main development directions create favorable conditions for environmental improvements?

Based on these evaluations, the SEA team proposed changes in development goals, suggested specific modifications of the SEDP, and provided recommendations for further planning and decision-making processes in the study area.

The SEA was carried out over four weeks and did not include extensive stakeholder consultation. Initial meetings were held with provincial and district authorities during the scoping phase and the draft baseline analysis was discussed at a round table with representatives of the district offices. The draft SEA report and key findings of the assessment were discussed in the workshop organized by the Provincial People's Committee.

Institutional issues were not explicitly addressed in this SEA. However SEA recommendations propose numerous detailed arrangements for improved coordination between relevant institutions in charge of socio-economic development and environmental protection in the area.

VIETNAM: STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE VINH PHUC SOCIAL ECONOMIC DEVELOPMENT PLAN 2006 -

²² Source: Smutny (2008)

2010 (2008)²³

This SEA pilot aimed to assess Vinh Phuc Socio Economic Development Plan (SEDP) for 2005-2010 and provide recommendations for incorporation of sustainable development issues into the next provincial SEDP for the period 2011 – 2015 and for later plans. It was financed by GTZ, which provided consultant input and covered the costs of stakeholder meetings and document preparation. The executing agency for the SEA was the Provincial Department of Natural Resources and Environment.

The SEA focused on environmental concerns associated with the SEDP 2006 – 2010. Consultations with different stakeholders indicated the need to focus the SEA on air quality, forest quality and biodiversity, soil quality and land degradation, solid waste management and water quality.

The SEA relied largely on desktop review, expert judgments and several workshops. First, a stakeholder workshop was held to review development trends and to determine environmental issues, objectives and indicators that should be considered during the SEA process. A second scoping workshop evaluated the current situation and trends and their likely evolution if the plan or strategy was not implemented (the zero or no action alternative).

After an analysis of the impacts of proposed development objectives and priorities in the SEDP, a rapid assessment of specific activities and an assessment of cumulative effects of the entire plan were undertaken.

The SEA report was informally reviewed by the Provincial Department of Natural

Resources and Environment and the SEA Working Group and then submitted to the Provincial People's Committee for final appraisal.

Stakeholder engagement was carried out mainly through a provincial taskforce that included representatives of concerned provincial departments, both at decision-making and technical levels.

The SEA contained suggested innovations in cross-sector and provincial planning to avert or minimize environmental impacts of development activities proposed under the SEDP. It also provided recommendations for reformulation of the main development objectives contained in the SEDP. Lastly, it included detailed recommendations for 16 specific EIA studies that should be undertaken for projects proposed in the SEDP.

VIETNAM: SEAS OF THIRTEEN LAND USE PLANS AND ECONOMIC ZONES SUPPORTED BY SEMLA PROGRAM (2006-2008)²⁴

During 2006-2008, the Vietnam-Sweden Program on Strengthening Environmental Management and Land Administration (SEMLA) supported 13 SEA pilots for provincial and district, land use and economic development plans. The SEA pilots were undertaken by local consultants with support from MONRE and international technical advisers.

An overall conclusion from this experience is that all actors involved in SEA exercises generally need several days of training, as well as the actual involvement in the SEA process to gain a sound understanding of SEA. Without these arrangements, a lack of understanding of SEA may become an obstacle to “ownership” of the process and

²³ Source: Chu & Nguyen (2008)

²⁴ Source: SEMLA (2008)

to use of the recommendation from the SEA.

The best SEA pilots were located in provinces that have well developed environmental planning and strong environmental commitments, and a solid tradition of working across administrative boarders. A strong commitment among the management was also important, as well as the allocation of sufficient co-financing to produce SEAs.

None of the pilot projects was able to fully integrate SEA procedures in the planning process, primarily because of difficulties of timing the SEA to fit into the planning processes that follow relatively strict procedures. In most cases, the SEA was for plans that were either approved or in a relatively finalized draft form. In some cases, the SEA was understood as a post-planning process.

In general, most provincial pilots were successful in facilitating inter-sector coordination. Most of them established inter-departmental working groups and were characterized by interaction between different departments throughout the SEA process. Some of the provincial pilots also conducted a specific stakeholder analysis in a project's initial stages.

In most of the SEA pilots, only a few scenarios were developed and assessed, namely the proposed plan and a no-action scenario. However, in some of the pilots the scenarios are described randomly, and it seems the meaning of using scenarios is not fully understood.

Within the SEA framework, there was a big difference between how provinces prioritize environmental aspects. Provinces with developed environmental plans found it easier to prioritize and conversely those without an environmental plan found it

difficult to properly select important environmental aspects.

Many experts involved in the SEA pilots argued that there was not enough reliable data available for doing the environmental assessment and collected additional data, in some cases using extensive measures. This activity required considerable resources and delayed the SEA and the planning process.

There were big variations in consultative procedures used by the SEA pilots. Some provincial SEAs organized public meetings or conducted surveys; others used traditional workshops where village leaders spoke on behalf of the local community. For inter-provincial pilot SEAs, no public consultation was conducted, reflecting the difficulty of involving local communities over such large areas.

There were also major differences in the way the SEAs were reported. Some relied on the traditional Vietnamese approach to writing reports for decision-making. Others used international guidance on the contents of the SEA report. The main differences between the two types of report can be briefly summarized as follows:

- “Vietnamese traditional reports” often start with little to no definition of objectives, scope and methodology; “international” reports go into more depth on these aspects.
- “Vietnamese traditional reports” give a detailed description of conditions for the area; “international” reports often give only a summary, placing detailed information in an annex.
- “Vietnamese traditional reports” only briefly describe alternatives considered, whereas “international” reports explain these more fully.

SUMMARY

The SEA pilots discussed here are varied and should be understood as largely initiated for learning, demonstration and capacity building purposes. They provide a snapshot of emerging and still evolving

SEA practice and experience in the EAP region. It is still far too early to make any definitive judgments about where trends are leading or their likely outcome in terms of mainstreaming the environment in development decision-making.

Chapter 5: Conclusions and Recommendations

OVERALL FINDINGS

With the eroding baseline of environmental quality across the Region, introducing and strengthening SEA as a frontline tool to address deterioration of environment and natural resources has never been more urgent.

There is now a critical mass of experience that can be used to promote the development of SEA frameworks throughout the region. It is based on implementation of SEA systems in China and Vietnam, expected formalization of SEA requirements in Indonesia and Malaysia, development of SEA frameworks in Thailand and Philippines, and increasing use of SEA supported by various donors in other developing and transitional EAP countries

Specific recommendations on moving forward in developing or upgrading SEA systems in the Region are listed below. They should be read as a whole, since many of them are interlinked.

CONCLUSION #1: PROMOTE SEA AS A SET OF ASSESSMENT ACTIVITIES THAT CAN BE FLEXIBLY INTEGRATED INTO PLANNING AND DECISION-MAKING

Planning traditions in the region do not appear to facilitate effective inter-institutional cooperation. This situation is further constrained by the fact that political structures and cultures in the region tend to be opaque, rather than transparent.

With the exception of a few pilot projects in Vietnam and China, there is a lack of SEAs conducted during the elaboration of PPPs. In this context, it is important to stipulate

clear requirements for undertaking SEA during the planning process but not to define rigid procedures that would constrain flexibility of SEA application.

The integration of SEA into planning should be encouraged gradually, first through undertaking simple technical assessments with little participation and then progressing toward more sophisticated and open processes as planners gain confidence in the use of SEA.

Flexible SEA frameworks can require the determination of key issues of concern, understanding the relevant baseline trends, assessment of planning proposals, design of mitigation and enhancement measures, backed by requirements for clear reporting and consultation with the relevant environmental authorities to ensure sufficient quality of conducted SEAs (see recommendation no. 5 below).

The development of such systems can be promoted for instance through:

- Undertaking pilot projects that test first simple and second sophisticated approaches to undertaking SEA during the planning process.
- Gradually developing advisory technical guidelines for conducting SEAs in key sectors that suggest fully customized SEA approaches for key planning processes.

CONCLUSION # 2: SEA SHOULD ADDRESS ENVIRONMENTAL AS WELL AS SOCIAL AND ECONOMIC CONCERNS OF DECISION-MAKERS AND RELEVANT STAKEHOLDERS

Nearly all the SEAs examined in this study

addressed inter-linkages between environmental, social and economic issues and many emphasized the usefulness of moving in that direction, particularly given the importance of social pressures in this region and the limited analysis of economic side-effects in standard analyses. At the same time, integrated approaches to SEA must not result in dilution or neglect of environmental issues, which would defeat the very purpose of SEA.

In order to reconcile these needs, SEA frameworks in the region should require:

- An integrated assessment of key concerns associated with a proposed PPP. SEA practice should not be constrained by stipulating rigid assessment requirements or inflexible reporting formats;
- Appropriate consultations with the relevant environmental authorities and other government agencies regarding the scope of issues to be addressed in each particular SEA and during the review of SEA findings.

CONCLUSION # 3: PROMOTE ROBUST ASSESSMENT APPROACHES THAT CAN PROCESS INFORMATION HELD BY VARIOUS STAKEHOLDERS AND CAN OPERATE IN THE FACE OF SIGNIFICANT DATA GAPS.

Suitable assessment approaches could be promoted through the following measures:

- Undertaking pilot SEA projects that test and demonstrate simple assessment techniques that can process information provided by various stakeholders and can cope with information gaps. Donors could play an especially important role in this area since externally-supported projects can be used as 'safe ground for testing and innovation'.

- Promoting regulatory reforms that facilitate free data sharing among authorities and providing for unrestricted access to all completed SEAs, EIAs and other studies prepared by the government for their use by any interested party.

CONCLUSION # 4: SEA SHOULD ADDRESS AND EVALUATE INSTITUTIONAL CAPACITIES AND ARRANGEMENTS FOR ENVIRONMENTAL MANAGEMENT AND INTEGRATION

The conduct of institutional analyses within SEA should be purposeful and handled with care since administrative arrangements and inter-institutional matters are sensitive topics. As Nankai University and Econ Pöyry (2008a) note, stakeholders often do not understand why and how the main objective of a SEA could be strengthening institutional capacity. Also typically there is little demand for reform by sector authorities.

It is recommended that:

- SEAs in the Region should increasingly consider institutional capacities for the implementation of the proposed mitigation and enhancement measures. Such considerations may examine practical opportunities for improved coordination between authorities, possible establishment of new regulatory, economic or administrative tools; and targeted capacity building for management at key institutions in charge of mitigation and enhancement measures.
- SEAs in the Region should also gradually include experimental assessments of the basic administrative arrangements for managing side-effects

of ongoing developments. The adequacy of existing institutional systems for instance could be evaluated as part of baseline studies which could outline the relevant trends in key issues and their potential institutional drivers.

CONCLUSION # 5: STRENGTHEN INTER-INSTITUTIONAL CONSULTATIONS AND GRADUALLY IMPROVE TRANSPARENCY OF SEAS FOR THE PUBLIC

Evolving SEA systems in the region provide framework requirements for engagement of relevant stakeholders and for public scrutiny of SEA processes but it may be unrealistic to expect that they will provide major opportunities for public participation in the immediate future (although this should remain a long term priority).

In the short term, greater openness and transparency of SEA systems can be facilitated by:

- Ensuring that SEA reports become publicly accessible and that citizens are given rights and basic opportunities to submit comments;
- Gradual pilot testing of different public participation approaches that are adapted to local context and development of skills in public participation; and
- Promoting unrestricted public access to environmental information to enable stakeholders to effectively participate in the SEA processes. This arrangement would also provide for the practical implementation of principle 10 of the Rio Declaration on Environment and Development which was signed by all countries in the Region.

CONCLUSION # 6: PROMOTE THE USE OF SEA BY PLANNING AND IMPLEMENTING AGENCIES THROUGH PROMOTIONAL AND CAPACITY BUILDING ACTIVITIES

Nearly all SEA cases reviewed within this study indicate that the most important success factor for conducting SEA was a close involvement of planning authorities and their ownership, even if partial, of this process. To enhance the uptake of SEA, there is a strong need to ensure and show that SEA systems add value to the decision-making from the perspective of those in charge of planning processes.

Greater use of SEA by the planning authorities may be stimulated by:

- Undertaking SEA awareness raising and training programs for key planning agencies and line ministries. Such trainings should ideally facilitate discussions on flexible SEA approaches that can be fully customized to planning realities in these agencies; and
- Commissioning papers on the benefits and costs of SEA in the Region. Specific attention should be given to surveying opinions of planning authorities and decision-makers about the benefits and costs of this process and their recommendations for its further application.

CONCLUSION # 7: PROMOTE REGIONAL COOPERATION ON SEA MATTERS

Since no arrangements for cooperation between various national SEA initiatives are so far present in the Region, it may be desirable to establish a regional platform to facilitate the exchange of experience between countries and coordination among relevant donor projects. Such an approach

would be in line with the Paris Declaration on Aid Effectiveness, in which donors and partner countries have jointly committed to “develop and apply common approaches for strategic environmental assessment at the sector and national levels.”

Country delegations to a regional workshop on SEA in East Asia & Pacific (organized by the World Bank Institute and ADB-GMS Environment Operations Center) in December 2008 in Hanoi unanimously requested the continued support of the World Bank and other donors to facilitate longer-term regional networking on SEA matters. The Region thus offers a window of opportunity for a larger-scale regional intervention to stimulate development of national SEA systems through sharing of general lessons learned with establishment of SEA frameworks, exchanging experience on various SEA approaches and tools, and dissemination of relevant capacity development materials.

Regional cooperation on SEA matters could learn from other similar examples such as the Sofia EIA Initiative and may be stimulated through, e.g.:

- Establishing a regional network in the Region for knowledge sharing and information exchange. It may also be beneficial to stimulate SEA twinning arrangements between countries with similar requirements or common interests on specific SEA-related matters.
- Promoting regional cooperation between universities with an interest in SEA research and training;
- Facilitating professional networking through regional topic conferences that enable discussions on SEA practice.

References

- Ahmed, K., J. Mercier, and R. Verheem (2005). Strategic Environmental Assessment - Concept and Practice. Environment Strategy Note No. 14, World Bank.
- Ahmed, K. and Y. Fiadjoe (2006). A Selective Review of SEA Legislation, Results from a Nine-Country Review, World Bank, November 2006
- Ahmed K. & E. Sánchez-Triana (Eds.) (2008). Strategic Environmental Assessment for Policies: An Instrument for Good Governance. The World Bank, 2008
- Bao, Chunkuan (undated). Ten Years' Efforts, from Concepts to Legislation: Summary and Outlook of China's Strategic Environmental Assessment, unpublished material.
- Bina, O. (2006). Strategic Environmental Assessment. Paper presented at workshop "Innovation in Environmental Policy? Integrating the Environment for Sustainability", 6-7 December 2006, Stockholm
- Chu Quoc Hai and Nguyen Si Ha (2008). Evaluation of Strategic Environmental Assessment for the Vinh Phuc Social Economic Development Plan 2006 - 2010, Vinh Phuc Department of Natural Resources and Environment, September 2008
- Zhu, Da and Jiang Ru (2008). Strategic environmental assessment in China: Motivations, politics, and effectiveness. *Journal of Environmental Management* 88 (2008). 615-626
- Dalal-Clayton, B. and Sadler, B. (2005). Strategic Environmental Assessment - A Sourcebook and Reference Guide to International Experience. Earthscan, London
- Deddy, K. (2008). Email correspondence. 29 September 2008
- Dunn, B. (2008). Working Paper on Lessons Learned from the Pilot Strategic Environmental Assessment of the Quang Nam Hydropower Development Plan in Vietnam. ICEM - International Centre for Environmental Management. Brisbane.
- Dusik, J. (2005). Advisory services for drafting of Philippine Bill on Environmental Assessment. Mission report for the World Bank Institute. December 31, 2005.
- Fisher, T. (2007). The Theory and Practice of Strategic Environmental Assessment: Towards a More Systematic Approach. Earthscan. July 2007. ISBN: 1844074528
- Econ Pöyry AS (2008). Strategic Environmental Assessment of the Hubei Road Network Plan - Policy Note. Prepared for the World Bank, 2008
- EOC GMS (2008). Strategic Environmental Assessment of the Tourism Sector in Cambodia. ADB Core Environment Program for the Greater Mekong Subregion. February 2008
- ERM (2007). Strategic Environmental Assessment Study: Tourism Development in the Province of Guizhou, China, ERM, April 2007
- Grenier, L. (2008). Email correspondence, 28 Aug 2008
- Haakon V. & S. Bartlett (2005). SEA of Great Western Development Strategy. In: Dalal-Clayton, B. and Sadler, B. (2005). Strategic Environmental Assessment - A Sourcebook and Reference Guide to International Experience. Earthscan, London
- Halimaton S. H. (2007). A Malaysian Experience in Strategic Environmental Assessment (SEA), presentation at a workshop "Understanding Strategic Environmental Assessment", Putrajaya, August 2007
- IAIA (2002). Strategic Environmental Assessment Performance Criteria, Special Publication Series No. 1, International Association for Impact Assessment, January 2002
- ICEM (2006). Strategic Environmental Assessment in the Greater Mekong

- Subregion - Status Report, GMS
Environment Operations Centre, Bangkok,
Thailand
- Karnjanareka & Yootong (2007). The
Development of EIA and SEA in Thailand;
Presentation at ASEAN-China Workshop on
EIA/SEA, Beijing, 15 – 20 October 2007
- Kuswartojo, T. (2008). SEA Pilot Study at
Ciayumajakuning, West Java, unpublished
material
- Levett R. & R. McNally (2003). A Strategic
Environmental Assessment of Fiji's Tourism
Development Plan, WWF, May 2003
- Li, Tianwei (2007). Progress and Prospects of
SEA in China. Presentation by the State
Environmental Protection Agency at the
ASEAN-China Workshop on EIA/SEA,
Beijing, 15 – 20 October 2007
- Li, Wei (2005). Progress of SEA in China & SEA
of Grand Western Development Strategy,
presentation at the OECD/DAC workshop
on SEA, Vietnam, January 2005
- Li, Wei (2006). Status of SEA Development in the
People's Republic of China. Planning
Workshop on Strategic Environmental
Assessment of Economic Corridors and
Sector Strategies in the Greater Mekong
Subregion. ADB/EOC, 9-10 August 2006.
- Mercado, E. (2007). A Discussion Paper for a
Strategic Environmental Assessment (SEA)
Policy in the Philippines, CIDA Manila,
September 2007
- Mercado, E. (2008). Email correspondence, 6
August, 2008
- MOE Indonesia (2007). A Brief Overview on
Environmental Impact Assessment and
Strategic Environmental Assessment in
Indonesia, Presentation by the State
Ministry of Environment of the Republic Of
Indonesia, ASEAN-China Workshop on
EIA/SEA, Beijing, 15 – 20 October 2007
- MONRE & SEMLA (2007). General Technical
Guidance for SEA. Final Draft. Vietnam-
Sweden Program on Strengthening of
Environmental Management and Land
Administration. Ministry of Environment
and Natural Resources, Vietnam, October
2007
- MONRE (2008). Minutes of 7th MONRE-Donor
SEA Coordination Meeting, Ministry of
Environment and Natural Resources,
Vietnam 12 June 2008
- MWC (2005a). Regional Environmental
Assessment (REA) for Manila Third
Sewerage Project (Revised Draft), Manila
Water Company Inc., February 11, 2005
- MWC (2005b). Environmental and Social
Assessment Framework (ESAF) for Manila
Third Sewerage Project (Revised Draft).
Manila Water Company Inc., February 11,
2005
- Nankai University and Econ Pöyry (2008a).
Strategic Environmental Assessment for
Hubei Road Network Plan (2002-2020) -
Report. SEA Centre at Nankai University
and Econ Pöyry AS for the World Bank,
2008
- Nankai University and Econ Pöyry (2008b).
Strategic Environmental Assessment (SEA)
of the Hubei Road Network Plan - Lessons
Learned, SEA Centre at Nankai University
and Econ Pöyry AS for the World Bank,
2008
- OECD (2006). Applying Strategic Environmental
Assessment: Good Practice Guidance for
Development Co-operation. Organisation
for Economic Development and
Cooperation. 2006.
- Paranan, E (2006). Status of SEA Development in
the Thailand. Planning Workshop on
Strategic Environmental Assessment of
Economic Corridors and Sector Strategies in
the Greater Mekong Subregion 9-10 August
2006, Thailand Resident Mission
- Paranan, E (2007) Draft Guideline of SEA for
Thailand, www.onep.go.th/eia/SEA/Guideline_sea.ppt; last accessed on 19 January 2009
- Partidario, M. (1996) Strategic environmental
assessment: Key issues emerging from
recent practice, Environmental Impact
Assessment Review 16, pp. 31-55.
- Partidario, M. (2007) Strategic Environmental
Assessment Good Practices Guide,
Portuguese Environment Agency, October
2007

2007

- Rachamandran, P. (2008). SEA Final Workshop in Cambodia on 28th August – Highlights, email communication, 12 September 2008
- Ramboll Natura AS (2006). Strategic Environmental Assessment – Processes, Concepts & Cases, Introduction for Practitioners (brochure). Ramboll Natura, Stockholm
- Sadler, B and R. Verheem (1996). Strategic Environmental Assessment: Status, Challenges and Future Directions, Publication No. 54, Ministry of Housing, Spatial Planning and the Environment, The Hague
- Sadler, B (ed.) (2005). "Recent Progress with Strategic Environmental Assessment at the Policy Level," Czech Ministry of the Environment, Netherlands Ministry of Housing, Spatial Planning and the Environment, REC, UNECE, Prague
- SEI (2008). Strategic Environmental Assessment for Sustainable Hydropower Development in Viet Nam: Policy Summary, Stockholm Environmental Institute and ADB-GMS's Core Environment Program. July 2008
- SEKALA, NCG and PCSSF (2008). Strategic Assessment for Spatial Planning in Papua Province, Draft Report. Sekala, Nordic Consulting Group and Papuan Civil Society Strengthening Foundation. 7 May 2008
- SEMLA (2008). Evaluation of SEA Pilot Projects , Vietnam – Sweden Cooperation Program on Strengthening Environmental Management and Land Administration, Hanoi, draft 30 June 2008
- Smutny, M. (2008). Evaluation of Environmental Assessment for Socio-Economic Development Plan of Con Dao District, unpublished material, Integra Consulting Services, September 2008
- Zhou, Tan, J. Wu and I. Chang (2005). Requirements for strategic environmental assessment in China, Journal of Environmental Assessment Policy and Management, Vol. 7, No. 1 (March 2005) pp. 81–97
- Thérivel, R. (1993). Systems of Strategic Environmental Assessment, Environmental Impact Assessment Review, 13, 145-168.
- Thérivel, R. (2004). Strategic Environmental Assessment in Action, Eartscan, London
- Thérivel, R. and F. Walsh (2005). 'The Strategic Environmental Assessment Directive in the UK: One Year On', available at www.levett-therivel.co.uk.
- Tao Tang, T. Zhu, H. Xu, and J. Wu (2005). Strategic Environmental Assessment of Land-Use Planning in China. Environmental Informatics Archives, Volume 3 (2005), pp 41 – 51, International Society for Environmental Information Sciences
- Tiu Kok Moi (2007). An Overview of SEA in Malaysia, presentation at 'ASEAN-China Workshop on EIA/SEA', Beijing, October 2007
- World Bank (2005). Integrating Environmental Considerations in Policy Formulation: Lessons from Policy-Based SEA Experience, Report No. 32783, World Bank. 2005
- World Bank (2006). Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements: Practices and Lessons Learned in East and Southeast Asia, World Bank, April 2006
- World Bank (2007a). The Philippine Environmental Impact Statement System: Implementation And Performance (Final Report), World Bank, Manila, April 2007
- World Bank (2007b). Strategic Environmental Assessment and Integrated Water Resources Management and Development, Final Draft. Environment Department, World Bank. June 12 2007
- World Bank (2008). Sierra Leone Mining Sector Reform: A Strategic Environmental and Social Assessment, Report No. 44655-SL, The World Bank, 2008
- Yang, Yonghong, S. Luo, Y. Yu, Z. Li, and H. Zhang (2009). Overview of pilot SEA for the Dali Urban Development Master Plan till 2025. Draft 1. Yunnan Appraisal Center for Environment and Engineering, April

2009.

YEPB & Sida (2009). Core Training Material on
Strategic Environmental Assessment:
Version 2, Yunnan Environmental
Protection Bureau, April 2009

UNECE (1992). Application of EIA principles to
policies, plans and programmes.
Environmental Series No 5. United Nations,
New York.